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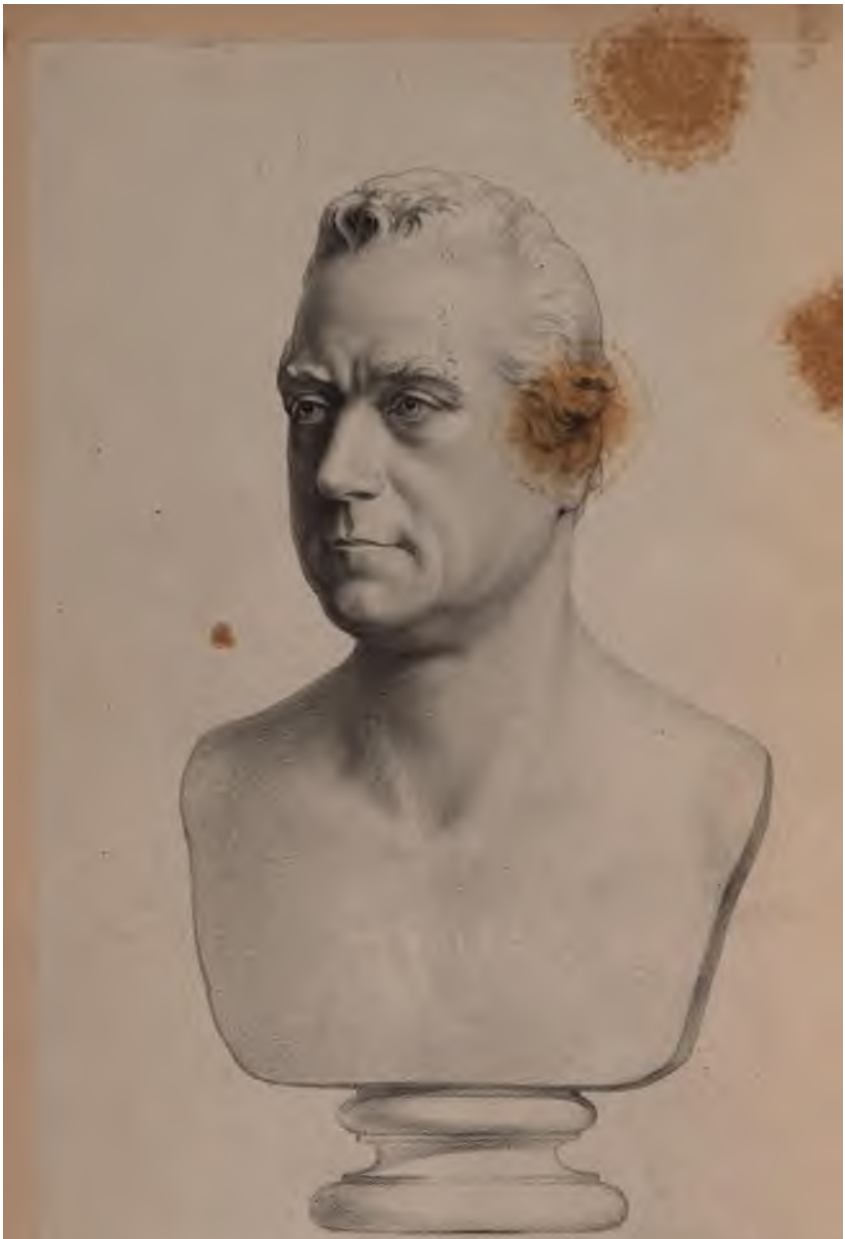

WILLIAM VAUGHAN. ESQUIRE.

Drawn by the Rev.d Daniel Alexander M.A

and on Stone by R. J. Lane A. R. A. 1826

From a Bust by Sir Francis Chantrey — 1811.
in the possession of Daniel Alexander Esq.re

TRACTS

ON

DOCKS AND COMMERCE,

PRINTED BETWEEN THE YEARS 1793 & 1800,

AND NOW FIRST COLLECTED;

WITH AN

INTRODUCTION, MEMOIR,

AND MISCELLANEOUS PIECES.

By WILLIAM VAUGHAN, Esq. F.R.S.

Nisi utile est quod facimus, stulta est gloria.

LONDON:
SMITH, ELDER, AND CO., 65, CORNHILL.
1839.

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PREFACE.

BETWEEN the years 1793 and 1800, I wrote and printed several Tracts on Docks, with Hints on Commerce, and on other subjects, to promote the formation of Docks and other accommodations for the Port of London. They were generally circulated, but were not designed for publication.

As many of these objects have been long completed, and as copies of some of these tracts still remain on hand, it may not be thought uninteresting to make as complete a collection of them as can now be accomplished, and they will be found in the Appendix. Some few of the smaller tracts relating to the Docks being out of print, and being at this time of little value, it has not been thought worth while to reprint them.

Having had some leisure, and wishing to make myself useful to society, I associated early in life with some of those Committees whose objects were congenial with my own feelings, and as many of them had been sanctioned and adopted by the public, they floated down the stream of time by

their own merits, and those who voluntarily tendered their services found their labours amply repaid by their success.

These views and pursuits induced me to procure from Captain Woodward a Narrative of his sufferings at Celebes (which is noticed in the Memoir, page 9), and which I published with an Introduction and an Appendix, containing many well-authenticated details of escapes from shipwrecks under great hardships; shewing the importance of discipline, union, confidence, and perseverance in the midst of scenes of danger, distress, and abstinence.*

The Memoir, Introduction, and Miscellaneous Part, with some few exceptions, were written within the last two years, and under great disadvantages, as I have been obliged to employ an amanuensis, owing to an imperfection in my sight.

I am indebted to my friend Mr. Alexander for proposing as a frontispiece a sketch drawn by his son, the Rev. D. Alexander, from my bust in his possession, executed by Sir F. Chantrey in the year 1811. I take this opportunity of thanking him for his kindness; and though it is the fashion

* A few copies of this work may still be had of Messrs. Smith, Elder, & Co. 65, Cornhill.

in these times for authors to give their own likenesses as an introduction to their works, yet as they often outlive them, I wish to build my hopes on a surer foundation, by presuming to present this little collection with diffidence to the public, relying on their kindness and candour for its favourable reception.

The Introduction and Miscellaneous Parts to this little collection may be deemed rather as sketches or observations on events that have risen out of the temper and spirit of the times we live in, than as a history or memoir of a private individual; and if they should prove interesting and useful to others, my great objects will be accomplished.

The Introduction and Miscellaneous Part of these little Tracts having been printed off, it is too late to do otherwise than insert the following excellent sentiments of Mr. Justice Park, extracted from the "National Gazette," published at Philadelphia, 22d February, 1839, which has just been received, and is as follows:—"The late eminent Judge, "Sir Allan Park, once said at a public meeting in "the City of London,—'We live in the midst of "'blessings till we are utterly insensible of their

" ' greatness and of the source from which they
" ' flow. We speak of our civilization, our arts,
" ' our freedom, our laws, and forget how large a
" ' share of all is due to Christianity. Blot Chris-
" ' tianity out of the page of man's history, and
" ' what would his laws have been, what his civili-
" ' zation? Christianity is mixed up with our very
" ' being and our daily life ; there is not a familiar
" ' object around us which does not wear a different
" ' aspect because the light of Christian hope is on
" ' it. Not a law which does not owe its truth and
" ' gentleness to Christianity ; not a custom which
" ' cannot be traced in all its holy and healthful
" ' parts to the Gospel.' "

If it had been seen in time, this interesting paragraph would have naturally appeared at page 126 of the Miscellaneous Part, where the introduction of Christianity is stated to have contributed so largely to the religious and moral improvement and happiness of society.

These admirable sentiments of the late Sir Allan Park require no comment, as they speak for themselves.

WILLIAM VAUGHAN.

London, 4th April, 1839.

INTRODUCTION.

WHEN a man has entered the eighty-seventh year of his age, it is time for him to revert to events that have passed; and to put his house in order, preparatory to his going hence to be no more in this state of probation.

Under the warning admonitions of age, the following suggestions present themselves;—That men ought to value life more from its importance and utility, when conducted upon correct principles, than from its longevity. If men in the enjoyment of health, strength, and the use of their faculties, were, during the summer and autumn of life, zealously to improve the talents committed to their care to the best advantage, they would secure much comfort and happiness for themselves, as well as for the rising generation, and would receive great consolation during the infirmities which generally accompany old age.

It may be observed in general, that men spend a third, a fourth, or a fifth part of their lives in infancy and education, and that there are but few characteristic events in either of these stages; but when both these periods are combined, they may be considered as the two stepping

ladders to the stage of life, where men often form their own characters and stations in every class of society, and where they frequently rise by their talents, industry, and perseverance, to wealth, honour, rank, and power.

It will be found that talents and industry so happily adapt themselves to the common concerns of life, as frequently to raise men from the lower stations to the higher; that knowledge is a power of the first magnitude, and discovers the great laws of nature, from astronomy, the parent of knowledge, down to chemistry and mineralogy.

The laws of nature, though simple, are grand and sublime; and the more they are discovered, the nearer they will approach each other; but when cemented by combinations, there is no knowing to what extent they may promote the comforts and happiness of man.

Accidents have also given birth to important discoveries, which, when matured by experiments and calculations, are often productive of great and important advantages to scientific and practical objects, that contribute to the convenience, comforts, and happiness of society; and these discoveries, when united with others, increase their utility.

There are few men whose names are more familiar to our ears in this country, as the promoters of knowledge and science, than Bacon, Boyle, Newton, Halley, Herschell, Franklin, Priestley, Watt, Davy, Arkwright, and Peel.

The observations and discoveries of some of these distinguished men led to the change of the Old to the New Style in 1752; an act that has created a greater revolution in the civil concerns of this country, without bloodshed, than many of its wars.

Early in the era of the New Style, the march of intellect had been making rapid strides, almost as quick as thought; owing perhaps much of the rapidity of its progress to the combination of the various branches of knowledge and science, and the application of machinery to the different arts. After the effervescence of the moment has subsided, it is hoped some will shoot out into new discoveries and ramifications, producing endless varieties conducive to usefulness and happiness. About the period alluded to, England began to increase in population, agriculture, civilization, arts, manufactures, and commerce.

After these digressions, it may be time to resume the consideration of the great importance and utility of human life; and perhaps one of the best means of obtaining that knowledge is for a man to ask himself whether he would wish to live his life over again; and at my age I may be allowed to take the liberty of stating, that on the whole, having enjoyed health, strength, and the use of my faculties, with many friendships and attachments, though not without many trials, I think I should have little hesitation in making my choice in the affirmative, wishing some things, however, undone, and others improved.

With these sentiments, it can hardly be expected that I should give the details of the birth, parentage, and life of a private individual. With all the allurements that are attached to biography, people are too apt to descend to the frolics of a school-boy, or the eccentricities of a man, which are little interesting to the public; and it would be better, I conceive, for a man's failings to die with him, and his virtues to live after him.

Suffice it to say, my parents were of good families, and much respected; they had eleven children; two died when young, and the remainder lived long after their parents, and were respected in their different stations of life.

As to myself, I was the second son of Samuel Vaughan, Esq., long a merchant in London, and Sarah, the daughter of Benjamin Hallowell, Esq., of Boston, Massachusetts. I was born on the 22d of Sept. 1752, a month and a year ever memorable in this country for the alteration of the Style; and, if it is of any further importance, my birthday is remarkable from the coronation of George III. having taken place on its anniversary in 1763, which, as long as he lived, was kept with public rejoicings.

My parents were desirous of giving their children a good and useful education; and my excellent mother paid great attention to their health, religion, morals, and temper.

I was placed at an early age at Mr. Newcome's school in Hackney, (one of the best private schools of the day,) and from thence was removed to the academy at Warrington, where my elder brother Benjamin had preceded me,

and which is situated between Liverpool and Manchester, the seats of commerce and manufactures. At Warrington I derived many advantages from attending the various lectures on history, literature, and general knowledge, which may perhaps have had a tendency to give a bent to some of my occupations in life, for which opportunities I feel grateful to my parents.

The academy at Warrington, at that period, was held in great estimation from the reputation of its tutors and the greater field they held out in promoting general knowledge and science on liberal principles, and many other pursuits not to be obtained in common grammar-schools. Dr. Aikin, the divinity tutor, was a man of great reputation, and was the parent of Dr. John Aikin and Mrs. Barbauld, whose literary works are well known to the public. Dr. Priestley was another tutor distinguished for his amiable character and kindness of manner as well as for his literary and philosophical pursuits, and for his lectures on history, &c. &c. My eldest brother Benjamin and myself resided in his house, and derived very great advantages from that circumstance.

My brother was possessed of considerable talents and general knowledge, which by perseverance made him conversant with philosophical pursuits, and introduced him to the acquaintance of many distinguished men.

After leaving Warrington he went to Cambridge, and thence to the Temple, where he studied law, and went subsequently to Edinburgh, where he studied medicine, but never practised either professionally. He was in Parliament for some time, and afterwards removed to America, and resided many years at Hallowell, in the State of Maine, where he continued his literary, scientific,

and agricultural pursuits. His valuable library was easy of access, particularly to medical men, and he was often with them at their consultations as a friend, but not professionally. He died in December, 1835, in his eighty-fifth year, much beloved by his family and regretted by society. He was well acquainted with Sir Joseph Banks, Mr. Cavendish, Dr. Price, Dr. Franklin, Sir Charles Blagden, and Dr. Priestley, who, when he published his Lectures on History, in 1797, dedicated them to his pupil. His friendship and connexions with Dr. Franklin were intimate and lasting, particularly during the period when my brother was confidentially employed to promote the negociation for a peace with America. In 1779 he collected and published, without a name, the "Political, "Miscellaneous, and Philosophical Essays of Dr. Frank-"lin," which was the best collection that could then be obtained. In 1796 a more enlarged collection of Dr. Franklin's papers, with his life, appeared in 3 vol. 8vo. which my brother also superintended. He afterwards, with other friends, prevailed on Dr. Franklin to collect his works and to write a memoir of his own life, which were subsequently published by his grandson, Temple Franklin, in 3 vol. 4to.* One copy of the manuscript life was sent to the Duke de la Rochefoucauld, at Paris, and another copy was sent to my brother, which the Doctor kindly permitted me to peruse. It remained some time in my possession, and I profited much from the life and

* There is a more recent publication of Dr. Franklin's Life, Works, and Letters, by Jared Sparks, in six volumes.

I have in my possession a good portrait of Dr. Franklin and his walking-cane, which he gave to my father, and which I greatly value.

writings of a man who was an ornament to society, and who ever considered utility as the great principle of life.

With respect to myself I shall only state that I attended all the lectures at Warrington except Divinity; it being intended that I should follow mercantile pursuits. My studies were much directed to geography, history, travels, and voyages of discovery. I took great interest in accounts of shipwrecks and other disasters at sea. I also saw and heard a great deal respecting canals, docks, manufactures, commerce, and population; and as small beginnings often lead to greater efforts, I was, in 1791, induced to join with some friends in endeavouring to procure a good collection of the history and plans of the canals of this country, with a view of forming a society for their encouragement; and, for this object, I wrote a prospectus, which appeared on the wrapper of the European Magazine; but the attempt failed. A copy of this paper will be found in the Miscellaneous Part, No. 1.

In Dr. Rees' Cyclopædia will be found an accurate description of all the canals then made, making, and projected in England; and there is also another article in the same work which gives much information on the subject of docks. With a view to these objects I made a collection of all the plans of canals, both English and foreign, which I could meet with, with descriptions and details, forming three large folio volumes; and another collection on the subject of docks, which formed two volumes more, with various other documents connected with these subjects.

A society was also formed for the improvement of naval

architecture, and for collecting the best information on that subject, in which the late Colonel Beaufoy took the lead. Many experiments were made in the Greenland Docks of importance to science, which were conducted principally under his inspection; and his son, Henry Beaufoy, Esq., of South Lambeth, has lately published an account of them in a princely style, giving the work to a great many public bodies and private individuals both at home and abroad.

Some of the first naval men of the time belonged to this society, and his late Majesty William IV. when Duke of Clarence, honoured it with his sanction. I often attended the committee with Colonel Beaufoy, Captain Laird, R.N., Mr. Daniel Brent, the ship-builder, and others; and I contributed a paper on naval architecture and the preservation of timber, a copy of which will be found in the Miscellaneous Part, No. 2.

In 1783 I was elected a Director of the Royal Exchange Assurance Corporation, and continued in it, first as director and afterwards as sub-governor and governor, until the year 1829, a period of forty-six years without intermission. This period embraced the most useful, important, and pleasant part of my life, during which I formed many friendships and attachments. Having some leisure, and wishing to make myself useful in that situation, I drew out various general and consolidated statements of the different branches of the concerns of the corporation for a century, namely, from the year 1720 to 1819 inclusive, for which I received the thanks of the Court, and they were pleased to adopt many of the hints and suggestions therein submitted to their consideration, and to request me

to sit for my portrait, which was painted by Mr. Phillips. In the Miscellaneous Part, No. 3, will be found the Resolutions of the Court, and my answer for their thanks, and also for my picture being permitted to be hung up in the Court-room. These documents were contained in seven volumes, and when completed, including the final report upon all these transactions down to 1827, were presented, in December 1837, with a letter, a copy of which is annexed; but unfortunately all these reports and statements were destroyed by the late dreadful fire at the Royal Exchange, as well as the portraits of Edward Foster, Esq. governor; William Vaughan, Esq. governor; Pasco Grenfell, Esq. governor; and Samuel Fenning, Esq. for long services, and many years a sitting director.

In 1796 I became acquainted with Captain David Woodward, and received from him an account of his hardships and sufferings in the Celebes Seas, and of his residence in the island of that name. He was the mate of the American ship Enterprize, Captain Hubbard, going from Batavia to Manilla, and being detained for some weeks in the Straits of Macassar by head winds, and in distress for provisions, his captain sent him with four men to a vessel at a distance to request supplies; but not being able to procure any beyond a momentary refreshment, they left that ship the next morning, taking with them only a bottle of brandy. They lost sight of both vessels and fell in with a Malay proa, with the crew of which they endeavoured to barter for supplies, offering them money in exchange. The Malays attempted to fire on them, but their muskets failed, when Woodward soon after pushed into an inlet in the island of Celebes, and while they were cutting cocoa-

nuts the Malays seized his boat and killed George Miller, the man who was left in charge of it. Woodward and the survivors, after enduring great hardships for nearly twelve days and almost without provisions, surrendered themselves to the natives and lived amongst them, with various hardships, between two and three years. They then seized a boat, reached Macassar, found their way to Batavia, and thence to Calcutta.

While Captain Woodward was there, the Ship America arrived in Bengal, and, to his great surprise and joy, it was commanded by his old friend Captain Hubbard, the very Captain with whom he had sailed three years before in the Enterprise, when he lost him in his boat in the Straits of Macassar. Captain Hubbard was quite overjoyed to see Captain Woodward, and soon convinced him that he had not forgotten him, and told him that he had given up the boat for lost, after having waited in the Straits for three days, and had sent home his clothes to his wife, (or widow as he supposed) with the balance of his wages.

Captain Hubbard pressed Captain Woodward to go with him to the Mauritius, and promised that on their arrival there he should succeed him in the command of the America, which belonged to the same owners as the Enterprize.

At the Mauritius Captain Woodward met with three of his old messmates and fellow-sufferers,—John Cole, George Williams, and William Gideon. The other, named Robert Gilbert, had previously gone to America. As may be supposed, they were not a little glad to see each other again. Being now in a more prosperous situation than when they first parted, he furnished them with clothes and shoes.

Captain Woodward being appointed to the command of

the America at the Mauritius, arrived in London in 1796, consigned to my firm. I obtained from him a narrative of his sufferings, which was afterwards published by Mr. Johnson, in the year 1805. I dedicated it to my friend and relative, Captain Benjamin Hallowell, an officer well known in the British navy as one of Lord Nelson's Captains in the action of the Nile.*

Captain Hallowell was afterwards created an Admiral and Knight-Commander of the Bath, and took the name of Carew, with an estate bequeathed to him by our relative, Mrs. Gee, of Beddington Park, Surrey, and entailed upon his heirs.

To Captain Woodward's narrative was added a list of fifty-two well-authenticated cases of accidents, shipwrecks, and interesting escapes by sea and land, calculated to teach that none should even under the most unfavourable circumstances despair.

Messrs. Constable have since published Woodward's Narrative in their Collection of Voyages, vols. 78 and 79.

* "Part of the *Orient's* main-mast was picked up by the Swiftsure; "Captain Hallowell ordered his carpenter to make a coffin of it; the "iron as well as wood was taken from the wreck of the same ship: it "was finished as well and handsomely as the workman's skill and ma- "terials would permit; and Captain Hallowell then sent it to the Admiral "with the following letter:—

"Sir,—I have taken the liberty of presenting to you a coffin made "from the main-mast of *L'Orient*, that when you have finished your "military career in this world, you may be buried in one of your tro- "phies. But that that period may be far distant, is the earnest wish of "your sincere friend, BENJAMIN HALLOWELL."—*Southey's Life of Nelson.*

I had the pleasure of seeing Captain Hubbard when he came to London, and of receiving from him a written confirmation of Captain Woodward's Narrative; and it is also a remarkable fact, that one of the seamen who was with Captain Woodward, some years afterwards called on me, and after perusing the narrative, said it was very accurate. He had been in the navy, and wished me to recommend his son to be made a midshipman.

An attempt was made to form a society for the purpose of preserving life, and aiding those who might be exposed to shipwrecks or other hardships, by collecting the narratives of those who had survived such trials, that others might profit by their experience; but the attempt failed.

I felt it my duty, at various periods during the long war, to attend with others the different committees for public subscriptions; such as that upon the loss of the Royal George with Admiral Kempenfelt at Portsmouth, on the 3d August, 1782; that for the suppression of the mutiny at the Nore; and afterwards on another committee for raising a subscription for the relief of the wounded and the families of those who were killed at the battle of Camperdown, under Lord Duncan, when a very large sum was collected. This victory was highly important for its preventing a descent on Ireland.

The year 1797 was a year of much anxiety, from a state of insubordination instigated by evil-minded persons in the British navy; and also by the mutiny at the Nore, which excited so much attention, that the merchants, bankers, and traders of London were publicly convened to meet on

the Royal Exchange, in order to take prompt measures to restore tranquillity; and they came to a resolution to recommend, that all persons who were concerned in the same should not in future be again employed in the naval and merchant service of this country. An active committee was appointed, and a large subscription raised to take such measures as might be deemed expedient upon such an occasion. These resolutions were printed and circulated, and found their way the next morning early on board the man of war in which Parker and his associates were assembled; and from the information given by an elder brother of the Trinity House, who had been detained on board, he stated that the resolutions had produced a great effect on Parker and the ship's crew.

The committee were active in their exertions, and to promote their views, I drew up a little address to the British seamen, which was approved and circulated by the aid of Sir Evan Nepean, Secretary of the Navy.

The resolutions of the merchants, and this address, went to prove how much the British seamen were better off than the seamen of other countries. A copy of the address will be found in the Miscellaneous Part, No. 4.

As one of the committee, I accompanied Captain King, (an elder brother of the Trinity House) to the Admiralty, and saw Sir Evan Nepean, and after some conversation we were introduced to Mr. Pitt and Earl Spencer.

The committee appropriated the funds raised in the purchase of swords and plate, as presents to the officers, and in gratuities to the men, for the performance of their duty, and the suppression of the mutiny.

I felt it my duty also to attend the embarkation of volunteers from the Dundee Arms in Wapping down to

Woolwich; and just as the Gravesend boat was going off, I received a note from Sir Evan Nepean, stating that the mutiny was at an end. But the boat departed, to entitle the men to receive their bounty.

In the year 1797 there were two naval actions, both of them important in themselves, and peculiarly so from the state of the times: one was that of Sir John Jervis, off Cape St. Vincent, in February, and the other that of Admiral Duncan, on the 11th October, which dispelled the gloom that had hung over the nation. They were important from the confidence which was restored to the country, and preventing, as before stated, a descent upon Ireland.

Sir John Jervis, with fifteen sail of the line, two of which were three-deckers, off Cape St. Vincent, fell in with and gallantly engaged the Spanish fleet, under Admiral Don Joseph de Cordova, of twenty-seven sail of the line, seven of which were three-deckers, and captured four of them, two of which were three-deckers. He was ably seconded by Rear-Admiral Nelson and the Captains of his division. In this action British valour shone with the greatest splendour.

Duncan, being reinforced, sailed with sixteen ships of the line, and engaged the Dutch fleet consisting of seventeen sail of the line, commanded by Admiral De Winter, and after a gallant and severe conflict, Admiral De Winter's flag was struck, his ship being totally disabled, and Lord Duncan took ten ships of the line; three were destroyed, and 4 escaped to the Texel, under the command of the Dutch Admiral, Story. Admiral De Winter was received in this country with all the respect and attention due to his gallant conduct upon the occasion.

It is stated that at a dinner given by one of the ministers to Lord Duncan and Admiral De Winter, that when the health of the latter was given, he appealed to Lord Duncan, whether, if the other four ships had not left him, he would not in all probability have gained the victory. Lord Duncan, with that pleasantry and delicacy so natural to him, replied by filling his glass, and saying, "Admiral "De Winter, I am exceedingly happy to drink your "health in this good company."

A large sum of money was raised by subscription for the relief of the sufferers in the above action, and a committee was appointed for its management.

The committee in the several reports of their proceedings upon 9th July, 1801, 29th October, 1802, and 17th January, 1804, stated, that out of 1040 cases of persons reported to have been killed or wounded in Lord Duncan's action, that all the wounded and the relatives of those who were killed, were relieved, except thirty-six, who could not be found, and that the unclaimed gratuities which had been allotted to these persons, were given to the consuls and churches in London of the different nations to which the foreign seamen belonged, and a portion of those gratuities that were then lapsed, to Greenwich Hospital, to the Merchant Seamen's Office, and to the Marine Society, as institutions intimately connected with the naval and mercantile service of this country: also donations to an hospital in London, another in Edinburgh, and one in Dublin, upon the condition of their receiving such wounded seamen as were in Lord Duncan's action that applied for admission.

In order to secure the regular payment of certain other annuities that had been granted to those who had been severely wounded, or to the families of those who had

been killed, the committee transferred to the Marine Society, in trust, the amount of those annuities, under certain regulations; for the particulars of which vide Miscellaneous Part, No. 5.

At the battle of the Nile, on the 21st of August, 1798, Rear-Admiral Nelson, with thirteen ships of the line, (one of which, the Culloden, got on shore, and was not in the action) and one of fifty guns and a brig, engaged the French fleet under Admiral Brueys, consisting of thirteen ships of the line and four frigates, and totally defeated it, taking and destroying eleven ships and two frigates. One of those ships of the line that escaped, and one frigate, the Diane, were taken at Malta, and the other ship of the line by a squadron in the Mediterranean. The British fleet had 1000 guns and 8000 men. The French fleet 1200 guns, and ten to 11,000 men.

With respect to the battle of Trafalgar, which took place on the 21st October, 1805, Lord Nelson was ably seconded by Admiral Collingwood; and the fleet consisted of twenty-seven ships and four frigates, and the combined fleets of France and Spain, commanded by Admirals Villeneuve and Alava, consisted of thirty-three ships of the line and seven large frigates. Admiral Collingwood sent to Gibraltar of the

Enemy's fleet	4
Destroyed	16
Escaped to Cadiz, wrecks . . .	6
Ditto serviceable . . .	3
Ditto to the southward . .	4
	33

And to crown the victory, great as it was, Rear-Admiral Sir R. Strachan, with four sail of the line and three frigates, fell in off Ferrol with the four sail of the line that escaped from Trafalgar under Admiral Dumanoir, and took them on the 4th of November, 1805, thus annihilating the enemy's naval power.

In the battle of Trafalgar Nelson lost his life, and the country one of its greatest heroes. He was buried at St. Paul's with public honours, in the coffin given him by Captain Hallowell; and the members of the Houses of Lords and Commons attended the ceremony as chief mourners.

It is a curious fact, that Mr. Clerk, of Eldin, near Edinburgh, wrote a book on naval tactics, without having been at sea or on board a man of war, in which work he recommended the breaking the enemy's line and doubling on the division that was to windward, and by so doing to defeat an enemy's fleet of greater force.

Lord Rodney, Lord St. Vincent, and Lord Nelson tried the experiment with success, and each of them wrote a letter to Mr. Clerk, stating that they were greatly indebted to his suggestions for their victories.

It may be remarked, that during a long war, England, by the superiority of its navy and discipline, obtained victories over the combined fleets of France, Spain, and Holland, and destroyed their naval power; and Wellington at Waterloo, by land, overcame the most renowned general of the age, and gave peace and tranquillity to Europe.

I belonged to the Society for bettering the Condition of the Poor, which, in 1815, came to a resolution to recommend the establishment, in the metropolis, of those useful and important institutions, Savings Banks;

and a meeting was held in Westminster, at which a number of distinguished and respectable persons attended, for the purpose of forming the Bank which was afterwards opened at Leicester-place. At this meeting I stated, that it was in contemplation to establish one in the City of London; and subsequently it was settled, by a meeting of a few friends at my house, that one should be established. This was carried into effect at Bishopsgate Church-yard, in July 1816, whence it was transferred to a new building at Blomfield-street, Moorfields, (its present situation,) in 1828; and, on laying the first stone, I received a silver trowel, with the following inscription:—

Respectfully
presented by
MR. JAMES FOSTER,
Builder,
to
WILLIAM VAUGHAN, ESQ.
Governor
of the
ROYAL EXCHANGE ASSURANCE
COMPANY,
on his laying the First Stone
of the
LONDON PROVIDENT INSTITUTION,
OR BANK FOR SAVINGS,
in BLOMFIELD-STREET, MOORFIELDS,
in the CITY OF LONDON,
he being one of the Vice-Presidents, and Chairman
of all Committees,
on the 20th day of September,
1827.
J. B. SHEPHERD, Esq. Architect.

In February, 1836, in consequence of increasing age and infirmities, I resigned my situation as Chairman of the Superintending Committee, and their thanks were returned to me for my services, as will be found, with my answer, in the Miscellaneous Part, No. 6.

In consequence of the great increase of the business of this Institution, the Committee purchased the lease of the house adjoining, pulled it down and rebuilt the same, having a new lease, for a longer term, granted by the City. Since its first establishment, in 1816, to 20th November, 1837, during a period of 21 years, there has been received, including interest .. £2,609,640 0 4
Deducting payments to depositors, including interest and disbursements 2,053,853 3 2

Leaving the sum of £555,786 17 2

due to 25,010 depositors.

I was also on the Committee of the Society for the Refuge for the Destitute, and for the Society of Friends for the Relief of Foreigners in Distress. I resigned my situation as Treasurer to the latter in 1829, after holding it for twenty-one years, when I received a letter of thanks from the Committee. I also belonged to the Marine Society and Merchant Seamen's Office.

From connexions and friends in America I became acquainted with many of the distinguished and literary characters of that country, and from their kindness I have been made an honorary member of the American Philosophical Society at Philadelphia, and of the Philosophical and Historical Societies at New York. I was likewise a member of a Committee for the relief of

British prisoners in France, for whom a liberal subscription was raised. The money was transmitted, at various times, to a Committee of respectable officers and others, who were prisoners there, to be distributed in such a manner as should be found most advantageous. Regular returns of the application of the money were made to the Committee in London.

The New England Corporation for civilizing the Indians in New England and parts adjacent is one of which I am also a member. I became a member of this Company many years ago, and succeeded Sir William Pepperell, Bart. as Governor, which office I resigned in 1829, still retaining my situation as a member of the Company, and continuing upon their Committees.

After New England became independent by the American revolution, the field of operations for the Company was, by a decree of the Lord Chancellor, transferred to the British colonies adjacent to New England.

The first operations of the Company, after this decree took place, were in New Brunswick; but not meeting with the success they anticipated, they removed their establishment to Upper Canada, where it is principally confined to the Indians of the Six Nations upon the Grand River, consisting of the Mohawks and other tribes, who had removed from New England and the parts adjacent.

A portion of the funds under the Company's directions is applicable to the advancement of the Christian religion among Indians, Blacks, and Pagans in some one or more of His Majesty's plantations or colonies; and they have devoted a part of them, with some success, to the

instruction of the negroes in Jamaica and other British islands in the West Indies.

I have been for many years a fellow of the Royal Society, and a member of the Royal and London Institutions from their commencement.

I have been a governor of St. Thomas's Hospital, and on its Committees for many years.

I was many years, and still remain, a governor of Christ's Hospital, an Institution established by Edward VI. of great public utility, where many of our distinguished characters have been educated. It gave me much pleasure to promote the objects of Professor A. D. Bache, of Philadelphia, a great grandson of Franklin, the President of Girard College for Orphans, founded and endowed by the late Stephen Girard, a wealthy citizen of Philadelphia. The Professor came to Europe to inspect such public establishments as were conducive to the carrying this great scheme into effect. He had free access to Christ's Hospital, and was much gratified to see those objects that promoted his views.

I was made an honorary member of the Society of Civil Engineers at the time the docks for London were in contemplation and execution. I have belonged to many literary and charitable institutions which are not adverted to; and it may now be time to conclude this digression.

I have been placed in many situations where I have endeavoured to make myself useful, and been blessed with many friendships and attachments, and my wishes now induce me to decrease my occupations; and I have found, from experience, that contentment forms a large portion of the happiness of human life; which

is confirmed by what Mrs. Barbauld says, (whom I became acquainted with early in life,) who shews that, by moderating our wishes we may lessen many of our imaginary wants and evils; and I now seek, during the remainder of my life, for ease and retirement, and I look forward with a humble hope that I may hereafter be transferred to a better and happier state.

September 22, 1838.

Part Second.

REMARKS

ON THE

STATE OF THE PORT OF LONDON IN 1793;

WITH AN ACCOUNT OF THE

RISE AND PROGRESS OF THE DOCKS

AND OTHER IMPROVEMENTS UP TO THE YEAR 1837;

WITH

A FEW HINTS AND OBSERVATIONS

ON THE

COMMERCE AND PROSPERITY OF ENGLAND.

REMARKS ON DOCKS.

It was intended to have given a summary statement of each of the docks and their accommodations from their beginning to their completion; their rise, progress, objects, and dimensions; but after a lapse of forty years and upwards, and the charters of the docks for twenty-one years having long expired, it was thought advisable to complete this collection by putting together the Tracts that were written by me, and reprinting some that were out of print. It is only intended in this second part to give a brief abstract of this collection, referring to the Tracts themselves in the Appendix for further information.

The Collection of Tracts for promoting docks, warehouses, and other accommodations in the Port of London, were written between the years 1793 and 1800. The first of these Tracts was written in 1793, and being favourably received by the mercantile and shipping interests was then printed for private circulation; it suggested St. Katharine's, Wapping, the Isle of Dogs, and Rotherhithe as convenient places for them, giving the preference to the plan for the London-Docks at Wapping, on account of its local advantages, and its vicinity to the seat of commerce.

These Tracts were first printed to show the wants of the Port of London in 1793, and the remedies proposed.

A meeting of the chairmen of public bodies and of merchants was convened, by public advertisement, to meet

at the Merchant Seamen's Office, on the 6th March, 1794, to take into consideration the state of the legal quays. They adjourned to the 14th March, to meet at the Marine Society's Office, to take into consideration the inadequacy of the legal quays for the accommodation of the trade of London, which were the same as at the time of Queen Elizabeth, between London-Bridge and the Tower; when it was resolved, after deliberation, that a committee of forty-one be appointed to take the same into consideration, and to report their proceedings, as occasion might require, to a general meeting. The committee met on the 18th March, 1794, when they resolved that the legal quays and sufferance wharfs were inadequate for the accommodation of the Port, and that they would be ready to receive any information or proposals for the further accommodation of the trade.

And upon the 13th March, 1795, the Committee came to the resolution, "that wet docks at Wapping would "best tend to remove the difficulties and inconveniences "which affected the commerce of the Port, and that they "were of opinion that the forming a cut from Black-"wall might be proposed, and that a communication of "the plan should be made to the Corporation of the City "of London, and also to Government to request their "support."

A general subscription having been agreed upon, and books opened for the purpose, the subscribers met at the London-Tavern, on the 5th January, 1796, Edward Forster, Esq. in the chair, and after passing several resolutions they agreed to prepare a petition to Parliament to bring in a bill for the purpose, and they further resolved,—

"That the thanks of this meeting be given to the chair-

" man, deputy-chairman, treasurer, and committee who " have prepared the business for this meeting."

Also resolved,—

" That the thanks of this meeting be given to William " Vaughan, Esq. for the assiduity and ability he has " manifested, and the assistance he has given during the " progress of this business."

During the progress of their investigations the committee of forty-one employed Mr. Powsey, who had recently constructed Mr. Perry's dock at Blackwall, to make a survey of Wapping; and his report being approved of, on the 24th August, 1794, Captain Huddart and Mr. Vaughan were requested to find out an efficient person well qualified to make a regular and correct survey of the vacant space at Wapping for forming the London-Docks.

Mr. Daniel Alexander, who had been employed in a difficult work of hydraulic architecture, in widening Rochester-bridge, and also as surveyor in building warehouses in the Tidal works of the Port of London, and who was strongly recommended, was appointed to make a detailed and accurate survey of the site for docks at Wapping; on account of its large open space of low land much below high water mark, and being covered by comparatively few houses, with a fine entrance from the deep water of the pool at Bell-Dock. The survey was completed in seventy days, and was found so correct as to require no alterations.

Various other plans were submitted, possessing merit; but that for the London-Docks at Wapping being preferred, a committee was appointed to carry the same into execution, as before stated.

In the original plan of these docks submitted to Parlia-

ment was a cut from Blackwall to the docks at Wapping, to avoid the circumnavigation of the Isle of Dogs, which was afterwards relinquished, and the application confined to the formation of " The London-Docks" only. On the plan submitted to Parliament was shown the number of streets and houses as they then stood ; and upon that plan was also drawn the outline of a dock of twenty-seven acres, giving the largest possible area of water, with the longest quay-room, and a figure a little irregular, to suit surrounding property, and a basin of three acres, with an entrance at Bell-Dock, afterwards approved of by the Court of Directors, in August, 1800 ; it was also further proposed to throw out a jetty into the dock, alongside of which ships might load and unload on three sides of the wharf.

The whole was referred to a committee of civil engineers of great repute, viz. R. Mylne, Joseph Huddart, John Rennie, and William Chapman, Esqrs. and the dock was executed by J. Rennie, Esq.

On the 3d of February, 1801, Mr. Vaughan, wishing to aid the operations of these engineers, took the liberty of suggesting various hints as to objects of a local nature, many of which were adopted. These details being of a local nature are not here inserted.

Mr. Alexander had the planning and constructing of the five stacks of spacious warehouses on the north side, situated 100 feet from the docks, to allow sufficient space for the convenience of loading, unloading, housing, &c. with cross walls each way, from the foundation up to and through the roof; forming four distinct compartments, with stone staircases at each gable end up to every floor, with iron doors at their entrances, and double iron doors to connect or separate the rooms ; which gave convenience

and security against fire. Mr. Alexander also completed the spacious vaults, which were capable of receiving many thousand pipes of wines and spirits, as well as the tobacco-warehouse, which covers the space of between four and five acres. The whole of the premises were encircled by a high wall, and were completed under his direction; and some years afterwards the adjoining or eastern dock of about seven acres was constructed, and the new warehouses were built by him. This dock was afterwards connected with the river by a cut at Bell Dock, Shadwell.*

Mr. Alexander drew various plans and made sundry borings for the state of the soil within the space intended for the docks; he also made an estimate of the value of the houses and premises intended to be purchased, and assisted in taking assents and dissents to the bill in question, and in building the warehouses for the second dock, and altering the building for the revenue-officers.

Mr. Alexander continued as surveyor to the Dock Company from 1794 to 1831, a period of thirty-seven years, when he resigned a situation which he had filled with zeal and ability.

The Company were also very much indebted to the zealous and active exertions of George Robinson, Esq., their first Secretary, who died in their service in 1827, for assisting to obtain the different Acts of Parliament; and for his general disinterested and judicious attention to their affairs, they voted him a handsome gratuity for these services, which he duly merited.

* In 1838 the London Dock Company, to create more quay room and greater convenience, carried out a jetty 800 feet long, at which ships may load with greater despatch.

The usual measures were taken to petition Parliament in favour of the Docks, when the House of Commons appointed a Committee to take into consideration all the plans that were proposed for the relief of the Port. During their progress two other tracts were written, printed, and circulated as follows:—

"Reasons in favour of London Docks" was a little publication distributed in 1795, and reprinted in 1796 and 1797. About 3000 of these were printed off and given to friends and opponents, and contributed greatly to remove many objections to Docks, and to their proposed situations. This tract will be found in the Appendix.

The next Tract, dated 16th August, 1795, was a Letter written to Thomas Irving, Esq., the then Inspector-General of Parliamentary Reports, by whom I had been favoured with many documentary papers respecting trade and shipping. In conversing with him on the importance of attaching the bonding system to the plan for making Docks, he requested me to communicate the same in writing; but time would not allow much care and consideration in composing a letter which was never intended for publication. He asked permission to communicate the letter to Mr. Pitt and Mr. George Rose, who were pleased to receive favourably the suggestions contained in it. Some few copies were afterwards printed in March, 1796, for private circulation. This letter being out of print, has been reprinted.

The bonding system had only been extended at this time to tea, tobacco, and rum; but when the Acts of Parliament passed for making docks, the West and East India trade were allowed the bonding system for their respective imports, under "An Act for permitting certain

" Goods imported into Great Britain to be secured in " Warehouses without payment of Duty."—43*d George III. cap.* 132. In the merchants' docks at Wapping, which had been intended for general purposes, the bonding system was in like manner granted for wine, brandy, rice, and tobacco. The charter for these docks was for twenty-one years.

Upon the expiration of these charters, this bonding system was extended equally to all the Docks that were entitled to the warehousing system. This system has at farther times been extended to many other articles of trade, and by degrees has been granted to the Docks of most of the leading outports. The advantages derived from it were great to the merchants, commerce, and revenue. It gave the merchants the command of capital in their commercial concerns; it encouraged making England a depôt for the exportation of its commerce to foreign parts without the payment or the drawback of duties, and left the payment of duties to be made at the moment of home consumption. It prevented much smuggling and illicit trade, and was a great saving to Government in the expenses of watching goods until landed, and in the expenses of collecting the revenue. The Docks also prevented much plunder and pilfering.

The Examination of William Vaughan, Esq., before the Committee of the House of Commons, dated 22d April 1796, was the next Tract, and will be found in the Appendix, of which the following are some of the general outlines. He produced a plan of a survey of the River Thames, made at his own expense by Capt. A. M. Shields, with the soundings of the river, and the position and number of the mooring-chains, from London Bridge to Bugsby's

Hole; and also plans of the several sections and soundings across the river at different parts by Capt. Shields. The plan was drawn to a scale of 40 yards to an inch, and extended to 18 feet in length. When presented to the Committee of the House of Commons it could not be received in evidence, from its being private property and from other causes; but it was permitted to remain there and to be referred to in the examination of Capt. Shields and Mr. Vaughan. These plans and sections, and also a printed copy of the first plan submitted to Parliament, as executed by Mr. Alexander, were afterwards presented to the London Dock Company, and are now hung up at the Committee-room at the London Dock for inspection.

As there were so many schemes for Docks, and other plans afloat for the improvement of the Port, and more proposed than the immediate commerce of the Port required, it was deemed expedient to see how much of the trade of the Port could necessarily lie and discharge in the river; leaving British and foreign ships from foreign parts, that were valuable on account of their cargoes and revenue, to resort to Docks at discretion.

Sir William Young, Bart., the Chairman of this Committee of the House of Commons, wishing to have some information as to the powers and capacity of the river for the reception, laying, loading, and unloading ships, requested to have answers to some queries on these and other subjects, which will be found in the Evidence printed in this collection, in the Appendix.

His Majesty George the Third having intimated a wish to see the different plans for the London Docks, they were sent to him with the Tracts that had been printed and

other papers; and his Majesty was pleased to return the plans with expressions of great satisfaction.

In the year 1794 many of these Dock Tracts that had been then printed were collected and bound together for private circulation; since which two other Tracts were printed, viz. Answers to Objections against the London Docks, written in 1796, and a Comparative Statement between the London and the West India Docks, written in 1799. These two pamphlets contain many observations upon commerce, and are now added to complete this collection of Tracts on Docks, Trade, and the Bonding System.

In consequence of the long and great discussions, for four sessions in Parliament, on the formation of the London Docks at Wapping, and the many competitions that sprung up in all quarters, and a fear that the West-India trade would not be early provided for, Robert Milligan, George Hibbert, Esqrs., and a respectable number of merchants, planters, and others advocated the formation of Wet Docks in the Isle of Dogs, and in conjunction with the interests of the City of London they procured an Act of Parliament for making two Docks exclusively for the West-India trade, with wharfs and warehouses; one for the import and the other for the export trade, with an entrance basin at Blackwall, and another at Limehouse-hole. The Act for these Docks was for twenty-one years, and after the expiration of the charter, the West-India trade was laid open, and at liberty to go to any other docks in the Port of London. The Act passed in 1799, and the first stone was laid on the 12th of

July, 1800, and opened for the reception of shipping on September 1, 1802.

George Hibbert, Esq., was the first Chairman, and Robert Milligan, Esq., Deputy Chairman, and were the great promoters of these Docks; and upon the death of the latter in May, 1809, the proprietors, much to his honour, were pleased, for his active services, to erect a statue to his memory with the following inscription:—

To perpetuate on this spot
the Memory of
ROBERT MILLIGAN, Esq.,
a Merchant of London,
To whose genius, perseverance, and guardian care,
the surrounding great work principally owes
its design, accomplishment, and regulations,
THE DIRECTORS AND PROPRIETORS,
Deprived by his death,
On the 21st May, 1809,
of the continuance of his invaluable services,
by their unanimous vote
caused this statue to be erected.

The statue was erected by Mr. Westmacott in 1813. The above inscription is on a bronze tablet at the back of the pedestal of the statue; the plate was originally placed in the front.

My friend George Hibbert, Esq. who was one of the principal West-India Merchants of London, chairman of that body, and for many years the able and zealous agent for the island of Jamaica, and for a short time in parliament, died on the 31st October, 1837, respected and re-

gretted by all who knew him. In public, he was an able and judicious advocate, and in private, a warm and kind friend. He was a liberal patron of the arts and sciences, and for many years President of the London Institution.

The Act for the formation of a canal across the Isle of Dogs, to avoid the circumnavigation of the river by Greenwich, passed in 1800, and was under the management of the City of London. This canal was afterwards purchased by the West-India Dock Company, and, with additions, now forms a part of their docks.

The Act for the Merchants' Docks at Wapping, originally intended for general purposes, without exclusion or monopoly, did not pass till the beginning of the next sessions in 1800, without the cut from Blackwall as at first proposed. It was begun in June, 1802, and was opened for the reception of shipping in January, 1805. Under the Warehousing Act, passed afterwards, tobacco, brandy, and rice were allowed to be bonded there.

The Act for the East-India Docks and for bonding teas, &c. (for the trade of India) passed in 1803, and the Docks opened in 1806, and my friend, John Woolmore, Esq., the first promoter, was elected chairman.

The East-India Company, since the alteration in their charter, have sold some of their valuable warehouses in the city, which has caused great alterations as to the system of management of the other docks. The West-India Dock Company have purchased the East-India warehouse in Fenchurch-street, and the St. Katharine Dock Company those in Cutler-street. The East and West India Dock Companies have lately united their interests.

I was on board the ships that first entered all these

docks and the City Canal, as well as the St. Katharine's at a later period.

The Act for the Commercial Dock, on the Surrey side of the river, for timber, oil, corn, &c. passed in the year 1810, and the docks were opened in 1813.

St. Katharine's.—In the year 1825 an Act passed for making docks at this place for the convenience of the Baltic and other trades. These docks owed their origin more to the combination and competition of particular interests than to the increase of trade and commerce of the Port of London. They extend over a plot of ground which had been surveyed by the London Dock Company, but was never further pursued on account of its possessing so small an area for water compared with the great number of houses upon it, and part of them upon a rising ground. These docks were commenced on the 3d of May, 1827, and opened on the 25th October, 1828. Thomas Tooke, Esq. was the first chairman. The dock is divided into two parts, with only one entrance and basin.

TIDES.

In August, 1800, Mr. Vaughan directed the height of the tides to be taken at the gates of the London-Dock, and to be regularly registered under the superintendence of Mr. Pearce, an intelligent foreman, who had been in the employ of Mr. Alexander at the pier-head, and to be kept as at Liverpool. The Directors of the London Dock Company were pleased to permit John W. Lubbock, Esq. F.R.S. who was making some valuable observations on tides generally, to make use of these tables, which were

afterwards printed in his interesting and important Observations on Tides, published in the Philosophical Transactions, from the years 1831 to 1837. There are other valuable communications in these Transactions made by Professor Whewell, of Cambridge, from the year 1834 to 1838, which contained many interesting observations made at 500 stations of the Coast Guard in Great Britain and Ireland, and 100 stations in America, Spain, Portugal, France, Belgium, Holland, Denmark, and Norway, under the direction of the Lords of the Admiralty.

I cannot more happily state the merits and services of these two scientific gentlemen on the subject of tides, than by referring to an extract from His Royal Highness the Duke of Sussex's Address, (which will be found in the Miscellaneous Part, No. 7,) and I hope that their researches in developing the great laws of nature will promote the cause of science and benefit commerce.

Mr. Vaughan frequently attended Captain Shields while he was making the survey of the river and the position of the mooring-chains, and making observations on the tides. Mr. Vaughan himself ascertaining the number of ships that could moor, at high water, between London-bridge and Bugsby's Hole, calculated on the average of various surveys made by him. In the year 1796, a table was also made of the regular rising of the tide from low water to high water mark on the south side of the river, Captain Shield marking the staff every three inches, while Mr. Vaughan kept the time for every ten or fifteen minutes on a calm and quiet day; these observations were not however repeated, but it was observed, that by drawing a line from the point of time to the point of the height of the tide it always produced a curved line.

With respect to the tide of the Thames, it may be stated that there are occasional fluctuations, owing to the state of the winds when the sea of the German Ocean is driven into the mouth of the Thames, instead of through the Straits of Dover; which I conceive will account, together with freshes from up the country, for some of the very high tides in the upper part of the river and at the dock-gates, and which occasioned the tides to flow about twenty feet and upwards. I requested Mr. Pearce to state the periods when they were at and above twenty feet. The water overflowed the banks at the stairs off Wapping, and at one of these periods I went down there and found in the street that I walked through the water half-leg deep, and the people were bailing the water out of their cellars,* and I am not incorrect in stating, that many years ago the tide flowed into Old Palace-yard and into Westminster-hall.

It may here be remarked, that the Thames, in regard to its tides as well as the draft of water at London, is by

* The site of St. John's, Wapping, and parts adjacent were anciently within the influx of the river, and was supposed to have been first embanked in 1544,—" By frequent inundations of the river Thames its " banks in these parts became sufferers; for about the year 1565 divers " breaches were made therein, which were no sooner repaired, than " another happened in 1571, which the Commissioners of Sewers, after " viewing the same, were of opinion that the most effectual way to secure " the bank of the river in these parts, would be to erect houses thereon, " to which end ground was taken, and the first foundation of the house " laid, where Wapping at present is situate."—*Maitland's History of " London*, book viii. p. 768.

See Plan of the London-Dock in the Appendix, p. 2, printed in 1794.

nature most happily adapted to the receipt of shipping in the stream, and the passing them afloat into docks.

The tide flowing gently from the Nore to Teddington, to an average of eighteen feet at the London-Dock on spring tides in a calm and gentle rise, not very much affected by winds, or storms, or freshes, by strong currents or by silt or mud banks: all of which, more or less, together with ungovernable heights of tide, are sometimes severely felt at Liverpool, Bristol, and Hull, and give the superiority to London in this respect.

This, with other properties, forms so fine a port at London in the very heart of the kingdom.

I requested Mr. Pearce to make out a copy of the tide tables kept at the Wapping dock for my own use, which he did till near the time of his death. Captain Maughan, the present dock-master, who succeeded Mr. Pearce, is an intelligent person, now continues them, and is attentive to the causes and operations of tides, and to the usual tables of them; and he has introduced the use of the barometer, which is also employed at Liverpool. He conceives that the plan of the river, as surveyed by Captain Shields, is a very valuable one, and a record of the tides forty years ago.

I did not expect that the tide tables kept at the London Docks would ever have appeared in the Transactions of the Royal Society; though I feel honoured at my name being referred to as having suggested the keeping of these tables in London, in the same manner as at Liverpool.

In the Examination of Mr. Vaughan before the committee of the House of Commons, will be found a plate of the section of the river and of the docks, made by him, and marked W.V. shewing the state of the tides at high

and low water-mark, and at neap and spring tides respectively, and also the rise and fall of the tide for each day.

Little accidents often lead to interesting, if not important consequences. The making of Docks had produced much attention at home and abroad; and my friend Matthew Boulton, Esq. of Soho, wishing to view them with some friends, I accompanied them. The Rev. James Smirnove, Chaplain to the Russian Embassy, was one of the party. They afterwards dined with me, and on my expressing a wish to increase my collection of maps and plans of rivers, canals and docks, both at home and abroad, Mr. Smirnove was kind enough to say that he would procure those of Russia for me.

In December, 1802, I received a letter from Mr. Smirnove, informing me that he had made an application to Vice-Admiral Mordinoff, who laid it before his Imperial Majesty Alexander I. who was pleased to direct a hydrographical plan of all the Russias, the rivers, and the canals, made and making, and the docks at Cronstadt, to be sent to me, for which I returned my grateful acknowledgments through Mr. Smirnove, sending at the same time various plans of the docks then under formation in London, with hints on commerce, free trade, and the bonding system, to be presented to his Imperial Majesty; and on the 30th October, 1803, I received a letter from Vice-Admiral Chichagoff, acknowledging my letter and the plans; and further stating, that his Imperial Majesty had been graciously pleased to send me a valuable diamond ring, for which I returned suitable acknowledgments. Copies of this correspondence will be found in the Miscellaneous Part, No. 8.

Colonel Waxall, an engineer of merit in the Russian

service, had been employed to make observations on the progress of the London Docks; and on his going to Petersburg to be married, he took with him a model I had given him of the railways and waggons used in those works, which he exhibited in a lecture before his Imperial Majesty.

While in England, he had taken up his abode next door to a public-house in Tower Street, that had been frequented by Peter the Great, for refreshment, upon his returns from working in the King's yards at Deptford, well known by the name of the

"CZAR'S HEAD."

This sign had originally projected into the street, at the time when signs were thus hung up. Colonel Waxall purchased it, giving another in exchange for it, which now remains fixed against the house. Wishing to send this sign of the Czar to be deposited in some public archives at St. Petersburg, he requested of me a certificate of its origin; which I gave, having found upon enquiry, that the then landlord or his family had purchased the good-will of the house from the person who put it up, or of the family to whom it originally belonged. On Colonel Waxall's return to England he brought with him a medal that had been given to him by his Excellency Count Romanzoff, after reading his lecture before his Imperial Majesty; and at the same time he requested permission to present it to me, having rendered him, as he stated, some services. The medal was accepted at the moment, but it was afterwards returned, stating that all the different rings, and this medal which he had received from his Imperial

Majesty ought to be kept as heir-looms in his family; and as ladies are the best guardians of their husbands' honours, I requested the medal might be presented to his lady to keep.

LONDON AS IT WAS IN 1793.

Before the making of docks, the accommodation of its trade was confined, for the loading and unloading of ships with the aid of lighters, to the legal quays between London Bridge and the Tower, only about 1460 feet in length, and to sufferance wharfs on both sides the river. The accommodation for the shipping was confined to the space between London Bridge and Limehouse Hole.

The number of vessels entered inwards in 1793 were—

	Colliers		3,500
	Coasters.....		6,473
			9,973
From foreign parts	British	2,574	
	Foreign	1,193	
			3,767
	Total....		13,740

Perhaps the best contrast that could be made for London as it was in 1793 is to compare it with London, with all its docks and improvements, in 1836 or 1837, aswill be found in the next part.

METROPOLIS

AND

THE PORT OF LONDON,

AS IT WAS IN THE YEAR 1836,

INCLUDING

ALL THE DOCKS, AND OTHER IMPROVEMENTS.

Within the last forty years the metropolis, including the port of London, has undergone a wonderful alteration and increase in extent, population, and commercial accommodation.

It may be stated that the metropolis is the seat of a great empire of legislation and justice, and also of industry, commerce, and revenue; and forms, as it were from its extent and numbers, a little government within itself, with such laws and regulations as are best adapted to promote its interest and welfare. Its inhabitants are generally subservient to laws and regulations, the minor courts of justice deciding quarrels and disputes, with the aid of a well-regulated police.

If strangers are struck with the size and grandeur of the metropolis and its great improvements in the last thirty or forty years, with its parks, gardens, public and private edifices, its churches, public hospitals, charities, and institutions for knowledge, science and arts, with its bridges, docks, tunnel and railways, they ought also to admire, with equal justice, objects that promote their cleanliness, health, comfort and happiness; with markets well supplied; plenty of water; its gas-lights affording beautiful illuminations; its steam-boats; its insurance offices and fire-engines, its commodious pavements and its barelled sewers, all of which tend to increase our comforts and security. There is no city better supplied with water or better drained.

If the maps of London at the time of Queen Elizabeth in 1560, and that by Roque, in 1769, be compared with those of the present period, there will be found to have been a very great increase in the size of it; particularly if we include the improvements and additions of recent times; such as Regent Street and Park; the Strand; Trafalgar Square; Pall-mall; Belgrave Square; Waterloo, Southwark, and London Bridges; the cluster of the docks, with all their buildings in the east, and other improvements in Middlesex, Westminster, and Southwark. A tolerable idea might be formed of the extent and number of houses requisite for a population of 1,500,000 inhabitants, allowing about six persons to a house.

The villages, for miles round London, are gradually becoming united to it, and the avenues to the capital are spacious and ornamental.

There are few cities where there are so many benevolent

and charitable institutions for the comfort and assistance of infancy and old age, and of infirm and sick persons.*

Contrasting the trade of London in the year 1793 with that of 1836, without entering into many details, it may be briefly remarked, that London has increased in extent, population, commerce, wealth and power beyond general conception. But wishing to confine points respecting London to trade and its accommodation, it may be briefly stated, that according to accurate documents there were entered for the year

1836	Colliers	8,162
	Coasters (including steam-vessels)....	12,603
	British ships engaged in Foreign trade	3,845
	Foreign ships	1,465
		26,075

* Since writing the above I avail myself with pleasure of an article in the John Bull, of the 5th of March, 1837, as taken from Frazer's Magazine for that month, to which I refer.

Hospitals, dispensaries, infirmaries, and other medical or surgical charities	78
Institutions and schools for the instruction of orphans and other necessitous children (exclusive of parochial, charity, and infant schools)	44
Pensionary, annuitant, loan and other societies	63
Philanthropic societies, asylums, and schools of reform	10
Miscellaneous societies for the relief of the distressed	29
Religious societies and schools.....	46
Educational foundations and school societies	18
Making an aggregate of	288

Benevolent institutions, some of which are unequalled in the world for

That the importation of coal into London was for the years

1825	Colliers	6,564	Tons of coal	1,856,606
1826	„	6,810	„	2,040,291
1827	„	6,491	„	1,882,321
1828	„	6,750	„	1,960,559
1829	„	6,992	„	2,018,975
1830	„	7,108	„	2,079,275
1831	„	7,006	„	2,045,292
1832	„	7,528	„	2,139,078
1833	„	7,077	„	2,010,409
1834	„	7,404	„	2,078,685
1835	„	7,958	„	2,298,812
1836	„	8,162	„	2,398,352

Being a very great increase over the importation of coals into London in 1793.

This great increased consumption proceeds from the increase of population, the number of manufactories, distilleries, breweries, private and public works using steam-engines, and particularly the supply of steam-boats plying from London to Margate, &c. and outward-bound.

extent, and the munificence of their provisions; which statement may be coupled with the fact, that for the support of education, Bible and Tract societies, no less a sum than £552,376 18s. 2d. (the actual receipt for the years 1835 and 1836) is annually subscribed in the United kingdom.

A Statement of the number of Vessels entered inwards and cleared outwards at the Port of London, for the years 1793, 1835, *and* 1836.

1793	*Inwards.*		*Outwards.*	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Colliers....	3,500	700,000	——	——
Coasters ..	6,473	496,760	——	——
	9,973	1,196,760		
From all other parts:				
British	2,574	498,651	——	——
Foreign....	1,193	177,019	——	——
	3,767	675,670		
1835				
Colliers....	7,958	——	——	——
Coasters .. (including steam-vessels.)	12,513	——	——	——
	20,471	2,764,982		
From all other parts:				
British	3,780	740,256	2,884	130,910
Foreign....	1,057	188,983	1,092	197,491
	4,837	929,148	3,976	828,401

1836

	Vessels.	Tonnage.	Vessels.	Tonnage.
Colliers....	8,162	1,650,177		
Coasters..	12,730	1,160,701		
	20,892	2,810, 878	11,167	1,115,857
From all other parts:				
British	3,845	772,046	2,964	662,445
Foreign....	1,465	255,875	1,444	257,120
	5,310	1,027,921	4,408	919,565

POPULATION OF THE METROPOLIS.

1811	Males	457,281
	Females	552,265
		1,009,546
1821	Males	570,236
	Females	655,458
		1,274,800
1831	Males	683,059
	Females	788,882
		1,471,941

London may be compared to a great hive, where the drones are as busily employed in trifling life away, as the industrious bees are in collecting honey for their winter store; and the busy throng from morn to night, and night to morn, are ever on the wing. There is no city where there are so many spectacles, exhibitions, plays, museums, gardens, and lectures as in London, to occupy the time of the wealthy, the learned, and the gay. It has been stated that thirty or forty years ago there were about 200,000 persons passing and repassing London, Westminster, and Blackfriars Bridges in a day; but what must the floating circulation of a dense population of so great a city as at present, where perhaps there may be above 400,000 persons moving daily by land and water: as an example, I recollect in the summer either of 1836 or 1837, in walking from Gower Street along the New Road to the Bank, I met about thirty omnibuses, and I was overtaken by about twenty going to the Bank.

It is stated in the Morning Post of 2d October, 1837, that within the limits of the three-penny post there are 850 short stages.

In 1826 there were 1,150 hackney coaches and cabriolets.

1828	„	1,200	„	„
1830	„	1,265	„	„

The number at present licensed is 1797.

It may be further stated, that above forty steam-vessels a week clear out to all parts beyond the Thames, or about 2,500 steam vessels per annum, which clear out from the Port of London, exclusive of those that go daily from

Gravesend and Margate, which go many hours in the day, as well as those that ply from London to Westminster Bridge every quarter of an hour in the day.

It has been estimated that about 400,000 persons in a year go from London by steam-boats to Margate and places adjacent.

COMMERCE AND ENGLAND.

It is not intended, in a little tract of this nature, to enter into speculative discussions, but, perhaps, when some other objects are intimately connected with the state of society and our prosperity, to allude to them as points that have contributed to make many changes in the state of England, may not be uninteresting.

England, for its extent, may be considered one of the most interesting and important countries in the world as to population, wealth, agriculture, commerce, and manufactures. Its territory may be divided into tillage, pasturage, woods, forests, with many navigable rivers. Its tillage affords wheat for men, oats for horses, and barley for beer and spirits. It possesses coal, iron, copper, lead, and other mines, and produces wool and timber, and has extensive fisheries. About 961,134 families were employed in Great Britain in agricultural pursuits in 1831. Manufactures, trade, and commerce with other avocations employ the rest.

Since 1763 its tillage and pasturage have increased by enclosures, improvements, and cultivation. Roads, canals, and railways have favoured the above objects, and strangers greatly admire the fertility, verdure, enclosures, and woods in this country.

The population of England may be divided into two classes, the rich and the poor; which, like the oak growing with its growth and strengthening with its strength, are the support of each other, and the wealth of the one and the labour of the other not only contribute to the union and happiness of both, but give vigour and power to this favoured land we live in; and it may truly be called Britain the Great.

There are few countries like ours as to population, civilization, education, industry, morals, justice, and commerce, with such laws for the protection of person and property, and the administration of justice and good order.

It may not be uninteresting in this place to give a statement of the population of England, Wales, and Scotland, taken from Parliamentary Reports for the years 1811, 1821, and 1831.

1811.

	ENGLAND.	WALES.	SCOTLAND.
Males.....	4,575,763	291,633	826,191
Females...	4,963,064	320,155	979,497
	9,538,827	611,788	1,815,688

1821.

Males.....	5,483,679	350,487	983,552
Females...	5,777,758	366,951	1,109,904
	11,261,437	717,438	2,093,456

	1831.		
Males.....	6,376,627	394,543	1,114,816
Females...	6,714,378	411,619	1,250,298
	13,091,005	806,182	2,365,114

The population of England has much increased within the last sixty or seventy years; but little can be relied upon beyond the Population Returns of 1811, 1821, and 1831.

Agriculture has in like manner much increased, nearly keeping pace with the increase of population; and it will appear that tillage and pasture, under the many inclosure acts passed during the last fifty years, and an improved system of the rotation of crops with the aid of potatoes now to be found all over the country, and other improvements in agriculture, have made a most rapid progress, and have brought an immense extent of country into cultivation for the food of man and beast.

It appears from tables taken from authorities of an early date that the state of production of corn in England was as follows:—

	Davenant, 1700.	Smith's Corn Tracts, 1765.
Wheat..... Qrs.	1,750,000	4,046,603
Barley.....	3,375,000	4,603,272
Oats.....	2,000,000	4,240,947
Rye.....	1,250,000	1,063,652
	8,375,000	13,954,474

It is not intended in this summary statement to give a detail of the present state of grain of all kinds; this is left to those who better understand the subject. Suffice it to state generally, that I conceive that in years of plenty, Great Britain may be said nearly to maintain itself from its own means, and that foreign corn is not permitted to be imported but under certain regulations, and subject to its paying a duty on its importation for home consumption.

It has been sometimes stated, that bullion goes out of the country to pay for the importation of foreign corn; but it will, I believe, be found that the exportation of bullion and its reimportation depend more on the state of the exchanges in our commercial proceedings than on our importation of corn; and that the corn imported into this country forms a part of the payment for the manufactures exported.

It may be further stated, that in general the climate of England is temperate, the people healthy and industrious and much attached to their country. There are few countries where there is so much medical aid and assistance for the rich and the poor, and where, in general, the people remain stationary as to health and longevity for many years without much alteration.

It was a saying of King James or Charles that there were more working hours in the day, and days in the year in England than elsewhere, which may be partly owing to their being fewer saints' days, fast-days, and holidays.

In the register of the population for the years 1811, 1821, and 1831 will be found the number of males and females, marriages, births, and burials, and also a statement of their ages, which will confirm the above represen-

tations; and from the attention that has been paid to the keeping of the register by various insurance companies, great public benefit has been derived by ascertaining ages and aiding medical men with respect to health and the cure of their patients. Longevity is also to be found in every class of society. There are above forty life insurance companies established in London, under various plans and modifications, but all tend to the great point of establishing the state of health and the duration of life.

There are few countries that have so many natural and acquired advantages as this. Our mines, fisheries, and natural productions are our great sources of wealth. We are ourselves the great consumers of those productions, and likewise the great consumers of our imports, and by the means of our industry and commerce have the greatest intercourse with every quarter of the globe, partly owing to our geographical position and vicinity to the continental ports of Europe. It is amongst our many advantages that England pays great attention to the giving an early education, by parochial, national, and other schools and institutions, to her people, with moral and religious habits, and we owe much of our prosperity and happiness in life to the early impressions we imbibe from our parents in infant years.

It may be also stated, that in this country, as in others, great respect is paid to the rites of marriage, baptism, and burial, and that when these are combined with the blessings of an early education, with habits of order and discipline, they greatly improve the civilization and moral and religious impressions of the people.

The English are much attached to their country, and are great lovers of justice and good faith, and are liberal

in promoting works of public utility. There are few countries where there are so many monumental records of public and private virtue as in England, which serve as examples to the rising generation; and the nation has frequently shown respect to the memory of those who have deserved well of their country, by public funerals or public monuments.

I was lately at Windsor-Castle, which I conceive to be the finest building of its kind for grandeur of style, antiquity, and preservation, in this country; and amongst some of the most interesting of its objects may be reckoned St. George's Chapel, the Waterloo Gallery, and the Gallery of Ancient Armour, which has been fitted up with peculiar taste and chasteness.

In the armory were seen the banners of Marlborough, Nelson, and Wellington.

Nelson, our great naval commander, was buried with national honours, and it is hoped, that when our great military hero shall have terminated his mortal career, he will be buried with equal respect, and that Fame will inscribe the name of Wellington on her tablet as one—

> "Who loved his country
> And who wished it well."

Literature and the arts and sciences are also much encouraged in this country, and may be happily exemplified by the British Museum, whose collections of Egyptian, Grecian, and Roman sculpture remain unrivalled. Its library is extensive, and has lately been enriched by the valuable collection of George the Third, which was presented to the nation by George the Fourth.

The Parliament have recently voted liberal sums for enlarging the building of the Museum, which will, when completed, form a splendid national establishment.

Though we have not so large a building or collection of pictures and statues in the National Gallery as the Louvre at Paris, yet they are annually increasing, and this country happily possesses within itself a great collection of the first masters, and the British Institution is annually furnished for exhibition from the private collections of the nobility and gentry with pictures of ancient masters for exhibition to the public; and we have had for many years an annual exhibition at the Royal Academy of painting and sculpture, by living artists, which does them great honour, and reflects much credit on the Society of Arts for having been the original promoters of the Royal Academy.

The annual exhibition of paintings in water colours is improving every year; and the National Gallery, though at present in its infancy, possesses some admirable pictures of the highest order.

Whilst we are looking at foreign schools of art, England should endeavour to form a school of her own, founded upon the laws of Nature, which are simple, grand, and beautiful.

The British Association may also be mentioned as another instance of the improvement of the times. It is extending its influence, to the great benefit of the community.

In machinery and mechanics, both on a great and on a small scale, we are unrivalled.

There are few countries that possess so much valuable statistical knowledge as Great Britain, from her parliamentary and other reports and publications on the state of

agriculture, commerce, manufactures, and science, both theoretical and practical, from which this country has derived the greatest advantages. A further reference may be made to Campbell's Political Survey of Great Britain, published in 1774, which contains an important statistical account of different parts of Great Britain at that period. Reference may be also made to Davenant, Adam Smith, Colquhoun, Tooke, M'Cullock, M'Queen, and other able writers on political economy.

Without touching upon the system of poor laws, which forms one of the most important and intricate concerns in the whole scale of political economy, and which is now under a great public experiment, it may be stated that the introduction of small allotments of land, let out at an easy rent to the industrious and labouring class of society, has afforded great aid and relief to those that would have been much distressed if it had not been for such resources; and no less than 75,000 families have adopted this plan with a prospect of a great increase as stated by "The Labourers' "Friend." This system, with the aid of Savings' Banks, will, it is hoped, promote industry, and increase the comforts and improve the morals of society.

When our commerce was in its infancy it might have stood in need of prohibitions, bounties, props, and fences; but it has taken so deep a root in our soil that it promotes agriculture and manufactures, and we can bear a storm without much apprehension, and may lessen many of our restrictions and prohibitions without injury. We owe much of our power to agriculture, manufactures, industry, and commerce.

This is not an opinion of a day, but was expressed in a valuable written by me to Whitshed Keene, Esq., M.P., who, sented

as one of the Committee, favoured the formation of Docks in London in the year 1796, and of which the following is a copy:—

London, 17*th April*, 1796.

Whitshed Keene, *Esq.*, M.P., *&c. &c. &c.*

SIR,

Permit me to request your acceptance of three little pieces respecting questions of great public utility, that were drawn up without much time for arrangement or correction.

The Letter to a Friend embraces objects of great moment beyond the simple Port accommodations of Docks, and were detached hints suddenly thrown together at his request, who wished them committed to writing without delay. The letter has so many marks of haste about it that I now almost repent its having made its appearance in its crude state; but I hope objects and intentions will apologize for its imperfections.

With respect to the question you asked yesterday, as to the extent of our commerce, and what proportion of our exports were the effects of a depôt, I beg to say that our commerce is of a peculiar nature, and that our great lines of imports lie in a few leading articles and the products of a few countries. We are the great importers and the great consumers of those imports, such as tea, wine, sugar, &c., and of those imported, such as require the hand of industry to bring them into circulation. We are also our own great customers. While we are looking with wonder at the great increase of our foreign trade, I look with greater astonishment at the extent of our home consumption, which makes me almost incline to doubt on many

of the generally received opinions about commerce; and that we must possess peculiar natural advantages to be able, with so few native products in return, to command such a commerce as we do, both as to our imports for consumption and our exports. I conceive that the great blessing which preponderates in our favour are our coals, iron, lead, tin, and copper, our industry, and the great security to property.

Of our foreign trade, our exports consist of a mixed assortment, and may be divided into three parts. The first, consisting of foreign produce in the same state as imported; and when we are merely the depôt, waiting for the advantages or competitions in markets, with all accumulated benefits of freights and charges that attach themselves to the import and re-export of such articles as tobacco, rice, and India goods.

The second, foreign products that undergo manufacturing. To these we attach a portion of the labour and industry of this country, which forms no small part of our capital, and which enables us to import and consume to the extent that we do. To ascertain the value and extent of our trade has been and will always be an imperfect thing; and we must only judge of it by its influence and effects, and in proportion as we encourage commerce we increase wants and the means of supplying them.

Not returning home till late last night prevented my sending the paper I promised sooner, and I remain,

Sir,

Your obedient and humble servant,

WM. VAUGHAN.

London is the metropolis of the kingdom, and is seated

at the head of a fine navigable river, nearly ninety miles from the sea; commanding the greatest portion of the commerce of the kingdom; and has an easy access to every port of England, and other parts of the world.

Liverpool is next to London in commercial objects. It is situated in the middle of a great agricultural and manufacturing district, and commands an extensive and increasing commerce with Ireland and America, and all foreign parts.

In the article of cotton only, Liverpool now imports from 1,200,000 to 1,400,000 bags per annum, which in a manufactured state by British labour, may almost be considered as a domestic product; a very large part of which is for home consumption. Its exportation in a manufactured state to America and elsewhere is considerable, and in the shape of twist, forms a great article of export to Germany, Russia, and Prussia.

From the insecurity of the river Mersey, owing to the tides, the whole of its trade, foreign and coastwise, is obliged to resort to docks, to load and unload, and is subject to the payment of dock rates. In the docks ships load and discharge afloat, or in half-tide docks or basins, open to the tide grounding in the latter at low-water.

With respect to the commerce and shipping of London, it is differently circumstanced to that of Liverpool; and within its port to Bugsby's Hole, it is capable of holding about 1,400 masted vessels at a time, including colliers and coasters, which must lie and discharge in the river. Foreign ships mostly lie at Limehouse Hole, leaving a portion of British and Foreign ships, valuable as to cargo, to resort to the docks at pleasure, which may hold 1000 or 1200 sail at a time.

Bristol has converted a part of the River Avon into a floating dock for the reception of its ships; making a new cut for the river, and thus giving rise to the remark, that they have an *artificial river* and a *natural dock.*

Hull has also extensive docks for the reception of its trade, having converted the Military Foss, as has been since done at Havre de Grace, into a wet dock; thus proving the increasing power and influence of commerce.

The four Rivers, the Thames, the Mersey, the Humber, and the Severn, connect and combine with the aid of roads, canals, and railways, the various manufactures with our Foreign trade.

It may be interesting to state an account of the official value of the imports into and exports from Great Britain in the year 1836; distinguishing the trade with France and the United States of America from that with other parts, and without comment.

1836.	IMPORTS Into Great Britain.	EXPORTS From Great Britain.
France	3,115,452	2,338,972
United States	10,918,835	15,017,625
Other parts	41,765,396	80,861,217
Total to all parts..	£55,799,683	£97,217,814

To which may be also added a summary statement of the imports and exports to and from the United States, with all parts; distinguishing the proportion of the value of the commerce with Great Britain and France respectively,

taken from official documents for the following years, each ending the 30th September. The dollar may be valued at 4s. 6d. and the tables speak for themselves.

YEARS.	IMPORTS. Dollars.	EXPORTS. Dollars.
1829	74,492,527	72,358,671
1831	103,191,124	81,310,583
1833	108,118,311	90,140,433
1834	126,521,332	104,346,973
1835	149,859,742	121,693,577
1836	189,980,035	128,663,040
1837	140,989,217	117,419,376
1838	112,000,000	103,136,000

N.B. The return for 1838 *not official.*

The falling off in the amount of Exports and Imports, since 1836, has been occasioned by the deranged state of the trade and currency since the commencement of that year, and is now reviving.

Of which to and from Great Britain.

YEARS.	IMPORTS. Dollars.	EXPORTS. Dollars.
1829	25,279,489	24,291,693
1831	44,093,717	32,989,519
1833	37,845,814	32,303,450
1834	47,242,807	44,212,097
1835	61,249,527	52,180,874
1836	78,645,968	57,875,213
1837	44,886,943	54,583,570

Of which to and from France.

YEARS.	IMPORTS.	EXPORTS.
	Dollars.	Dollars.
1829	8,838,978	11,749,395
1831	14,065,743	9,164,802
1833	13,431,678	13,772,221
1834	17,141,173	15,508,974
1835	22,915,376	19,751,244
1836	36,615,417	20,939,100
1837	22,083,614	19,690,578

It may be further stated, that the discovery of America has produced some of the greatest changes ever known in the history of the world. It has led to conquests and settlements in various parts of that great continent; and England was amongst the foremost to avail herself of the advantages to be derived from it. Amongst other events in more recent times, the war in 1756 and the peace of 1763 were productive of great and important results to this country. It gave tranquillity and security to the British colonies, and added Canada to our foreign dominions, as well as many acquisitions in the East and West Indies. The result of this war produced an increase of our ships, colonies, commerce, and revenue.

The war with America commencing in the year 1775 was followed by that with France; which events were revolutionary as to government, dominions and commerce. The war with America ended in its Independence, in the year 1783; but by subsequent events, our intercourse with the United States has produced a still greater revolution by the extension of our commerce, compared with the loss of our colonies.

France, jealous of our dominion at sea, and of our marine and commerce, aimed, with the combined fleets of its allies, to destroy our naval superiority.

But the engagements of Rodney, Howe, Duncan, St. Vincent, Nelson, and others, destroyed their naval force, and left their colonies and commerce unprotected; which tended to increase our commerce, and led to the improvements of the port of London.

The Americans, after their Independence, carried on much of their commerce with our colonies; which trade was chiefly composed of British and American manufactures, either on their own account, or as a neutral power to carry that commerce into their own ports; or else into English ports, as places of security, during the war, until they could be dispatched, with safety, to the continental ports of Europe, and then to be realized or re-shipped. The English cruisers made many captures, and brought in many ships for detention and adjudication; thus raising many intricate points in our Admiralty Courts, respecting neutral property and ships. Buonaparte, wishing as much as possible to prevent all intercourse with English ports, attempted to blockade almost all the ports of Europe against the trade of England in every shape, in order to depress it.

This produced a reaction, by the introducing of Orders in Council, neutral bottoms, and false papers, with high insurance at thirty per cent. against every risk. Many of these were taken or seized in port, and others arrived safe at their place of destination. In both cases the continent received supplies.

All these changes had a tendency to infringe on, or break down the policy of our navigation acts, and ulti-

mately to mitigate the rigor in the observance of them, prior to the general peace of 1815.

In 1815 the ever memorable battle of Waterloo (when the Duke of Wellington with the aid of the allies completely defeated Buonaparte) created another great change in the state of things, and gave peace and tranquillity to Europe. Armies turned their faces homewards, seeking employment by agriculture, manufactures, commerce, and domestic objects, encouraging industry to create property and produce revenue. This new situation of things created yet still greater changes in our commercial relations and treaties; decreasing the system of prohibitions by a mutual exchange of a more liberal nature, either in the reduction of duties, or trading upon more liberal terms. The countries of Europe by a long peace have increased their own advantages and comforts; and as they increase in population and wealth, they will also require fresh wants; and in the means of supplying them, England will have little to fear in a great scale from rivalship, having so many natural and acquired advantages; and by improving upon herself, she may still retain her power, influence, and prosperity.

It may be further observed, that England has improved upon its own discoveries, and has encouraged voyages for the increase of knowledge and science; and has also paid great attention to the civilization of other countries by the means of Missionaries, and the circulation of the Bible to all countries through the agency of religious societies of all denominations. Further information on this head will be found in the Miscellaneous Part.

The Tree of Knowledge is so deeply rooted in the soil

of this country, as to be favourable to the pursuit of the arts and sciences in all their branches, and to the education of the mind; and the fruits of industry have given wealth, greatness, and power to England, and we may conclude by saying,—

Happy, happy England! Sea-girt Isle! May she long remain, the living monument of her own fame, and may other nations follow her example!

MISCELLANEOUS PART

ON

VARIOUS SUBJECTS.

MISCELLANEOUS PART,

ETC. ETC.

No. 1.

NAVAL COMMUNICATIONS.

To Mr. Sewell.

SIR,

Your useful Magazine having engaged the public attention to a great national object, the importance of Naval Architecture both to our Navy and our Commerce, I am encouraged, from the reception you gave a little piece on that subject in your Appendix to your Tracts on Naval Architecture, to submit the following Hints to your consideration respecting *Inland Navigation*, from an old Correspondent. Both objects have an intimate connection with each other; and Great Britain owes much of her power, prosperity, and welfare, to the encouragements given to them. These Hints were written about two years ago for a particular object; and if encouragement is

given, I hope to see a Society formed for the Improvement of Inland Navigation, similar to the one that has been instituted for Naval Architecture What is here suggested, may be useful to a numerous class of your readers who have not an opportunity of perusing larger works, containing in many respects similar information. You have already given us one proof of your readiness to invite communications on useful projects; and I am persuaded you will be equally so, on another that may be no less useful to our internal interests and resources.

London, I am, SIR, yours,
July 1, 1792. A. B.

HINTS AND QUERIES ON INLAND NAVIGATION AND CANALS.

A pamphlet, entitled "The History of Inland Navigation in England," published some years, having been long out of print, and it being proposed to re-publish the same with improvements, and to continue it to the present time, the following Hints and Queries are submitted for consideration:—

The Duke of Bridgewater's Canal, begun in 1759, occasioned many similar projects; and so great has been the spirit excited, that the Legislature have passed no less than thirty-eight Acts of Parliament for the making or perfecting of Canals, or for improving the Inland Navigation of this country. Many of these undertakings are finished; some have failed, and others are at this moment carrying into execution. A complete history of them, stating their particular objects, their extent, and their

effects, cannot but be interesting to the public, who have been so much benefited by them.

There have been, perhaps, few objects of internal policy that have so much called forth the powers and resources of the country as Inland Navigation. Rivers and Canals are to a country, what arteries are to the human body. They aid agriculture and manufactures, and create new markets while they extend old ones. Inland Navigation has not only been the means of enlarging our foreign commerce, but of giving birth to an internal one; which, with all our predilection for foreign commerce, has far exceeded it in extent, value, and importance. The influence which this Inland Navigation and Commerce has had upon our industry, population, and resources, has been so great, as in many instances to have changed the whole appearance of the countries through which Canals passed.

The reasons are plain. If we appear as consumers, by means of Canals we are enabled to import more cheaply; if as producers, we add facility both to imports and exports. If the materials of a manufacture lie dispersed, Canals unite them, and at the same time supply the persons concerned in the manufacture with all their necessaries on the cheapest terms. The land-owner, whether as possessing the surface of the land or the mines below it, necessarily finds his advantage from new markets, and from having a cheaper carriage both for his manure and his productions. The intrusion upon his pleasure-grounds he may the more easily forgive, when he recollects the gain in return to his estate, his frequent absences from his country residence, and the many defeats in Parliament which Canal-undertakers in general have experienced, *solely* on this account. Perhaps it may be laid down, as a gene-

ral rule, that every Canal-Bill ought to pass in Parliament, when guarded in the usual manner, unless it does an unfair injury to another better Canal. The gain belongs to the public, the risk to the individual.

The experiment of Canals has now been made for some years, and to an extent, perhaps, of seven or eight hundred miles, and in most cases to the advantage of the public, even to the increase in many instances of land-carriage as well as navigation by sea.

In some parts of the country prejudices still prevail; and the popular objection, that Inland Navigation destroys our nursery for seamen, has frequently influenced the minds of those who were not biassed by any particular local interest. If in some instances the Coasting Navigation may have been lessened by it, in others it has been increased; and there can be no doubt, that a great extension of our distant navigation has arisen from a system which has in effect converted the internal districts of our Islands into COASTS. The security to the communications of the parts of the country one with another during the tempestuous months, and in time of war, which is afforded by Canals, is another advantage to be added to that of their cheapness compared with land carriage. The barge and boatmen, though they have little experience in boisterous seas, are by no means unacquainted with the art of managing and loading vessels, and they frequently find their way to our sea-ports, and thence into our navy. If Inland Navigation may be supposed to form but few navigators for the sea, no lives are lost in these calm elements; the diseases of hot countries, so destructive to our seamen, are also unknown in them; and they admit of no desertion, whether in peace or war, to foreign services, there to

be employed by our rivals and enemies. In short, the abundance of fresh-water rivers and lakes in a country has never been thought a detriment to its navigation, but the contrary: and there seems no reason for supposing artificial Inland Navigation to be in this respect at all more injurious. Besides, we are not always to judge of the benefits of commerce, agriculture, and manufactures, from instantaneous effects and consequences. Though they may not in direct lines be immediately productive, yet when taken in the greater outlines, they frequently in their returns and collateral branches aid and assist each other, by giving employment, circulation, and wealth.

When the history of Inland Navigation, and the spirit of industry and commerce come to be better understood, and popular prejudices decline in their influence, the accuracy of these doubts respecting the utility of Canals, &c. will be questioned. If we object to Canals, we may admit the same claims against the use of machines in our manufactures, and implements of husbandry in our agriculture. The cheaper we can invent, labour, and transport, the better we can contend with foreigners, and the more hands are left at liberty to new calls, which a general spirit of improvements and wants create; Ingenuity always proving itself the helpmate of Industry. The present growing state of our agriculture, population, internal and external commerce, is the strongest proof of our gaining ground; notwithstanding our incumbrance of debt, taxes, and dearness of labour.

There are two countries in particular, China and Holland, that have systematically encouraged Canals and Inland Navigation at the *public expense*. Neither of them want wealth, population, or employment; and Holland abounds

in navigation, as would China also, if her policy did not render her averse to foreign commerce. France has not been deficient in public undertakings of a similar nature. In England, the zeal of individuals has had a public sanction, but the undertakings have been at *private expense.* We build palaces for our public offices; and at an immense expense subsidize foreign troops in peace and war for objects of vain glory; or to balance hostile powers, in a manner oftener suited to our caprices and passions than to our interest; but we do not sufficiently cultivate those seeds of convenience, comfort, and industry, that would shoot out into permanent strength, wealth, and revenue at home. A time may come when the general system of all Governments may look more to the encouragement of such public undertakings as will tend to population, happiness, and improvement, in a degree far superior to our present ill-judged expensive systems.

The object of the intended publication should be to give a history of what has been done; to remove prejudices, and establish information and encouragement in favour of future undertakings. The following Queries and Hints are submitted, among others that might be suggested to the public. The information, plans, and hints of Engineers, of the Agents of Canals, and of private individuals, on the subject should be invited. The Queries and Hints are all numbered, to save trouble; and the Answers made may refer to these Numbers.

The history of Canals and Inland Navigation should not be confined to England, or even Scotland or Ireland; but it should embrace those of other countries where they have been extended.

London, September 15, 1790.

QUERIES, HINTS, &c.

I. Plans of Inland Navigation as originally projected; and how far they have been carried into execution to the present time; denoting particularly if any deviations; and when those at present incomplete, are likely to be finished.

II. The causes or objects of each particular Inland Navigation having been undertaken, and the degree in which the execution of the event has corresponded with them.

III. The nature and extent of traffic carried on upon these navigations.

IV. The different productions and manufactures of those places, and their neighbourhood, through which the Canals, &c. pass; or with what canals or rivers they communicate.

V. The effects which Canals, &c. have had upon the manners, industry, manufactures, population, agriculture, and mining, of the different countries where they have been found, especially compared with others similarly circumstanced; and also the cheapness and facility with which markets have been supplied, compared with former times.

VI. How far the value of lands, rents, and labour, together with taxes and rates, have been affected by them.

VII. The number of people, horses, &c. supposed to be

employed by, or in consequence of, the traffic on Canals, &c. especially compared with the former state of things.

VIII. The length, breadth, and depth of Canals; also the form and size of them best adapted for use, permanency, and economy.

IX. The fall of water on each Canal or Inland Navigation, and the number of locks made or intended.

X. What have been the improvements made in the system of locks, inclined planes, sluices, bridges, &c.; and how far they are still capable of improvement?

XI. How far Canals are expensive in their repairs; and the best remedies to prevent or remedy accidents or damages.

XII. The prime and annual cost, and the revenue and other profits to undertakers, in the cases of Inland Navigations, compared.

XIII. The tolls actually collected, compared with the accounts limited by the different Acts of Parliament.

XIV. The quantity of tonnage used upon Canals and improved Inland Navigations estimated *per annum;* with the size, forms, and draught of barges when loaded.

XV. What is the distance, time, and expense of conveyance, respectively, along the Canals, &c. to the four great extremities, *viz.* London, Bristol, Liverpool, and Hull; or as far as goods can be water-born to and from each place; and the same for intermediate distances?

XVI. What is the time, distance, and expense of land-carriage in the above cases; and where the water-carriage terminates?

XVII. What is the comparative time and expense, convenience or inconvenience, of land-carriage, in the above

cases, as opposed to that of Canals or other Inland Navigation?

XVIII. What is the time, expense, and damage, accruing in conveyances in the above cases by sea, both in winter and summer; and also the estimated sea-risks in peace, and in war?

XIX. What convenience or inconvenience, of a general, local, or particular nature, has been found to attend Canals and Inland Navigation, especially with respect to health, population, and employment; also the draining or otherwise of the soil, &c.

XX. Whether Canals cannot be made convenient and useful sluices through bogs? and to enquire, How far the experiments making in Ireland have succeeded? with the general observations from them.

XXI. How far Canals can be made subservient to the purposes of agriculture, by flooding of meadows or turning of mills, &c.?

XXII. What contrivances, implements, or machinery, have been employed for constructing Canals and improving Inland Navigation; and what species of boats, barges, bridges, cranes, and other machinery, are now used upon them, or in connexion with them?

XXIII. What curious or instructive incidents have occurred during the course of these undertakings; or what curious and instructive anecdotes respecting the parties in any way concerned in them.

XXIV. What is the best system for management and inspection of the concerns of a Canal or Inland Navigation, whether *formed* or *forming*; and what particulars are most to be attended to or guarded against upon this occasion?

XXV. To invite communications of plans, drawings, models, or explanations of projected or of executed Canals, sluices, locks, inclined planes, boats, bridges, or Canal machinery and implements; and in order to have information conveyed by them as perfect as possible, deviations made, or likely to be made, should be particularly noticed. In Canals there can be little danger of rivalships in communications of this nature, as they are always attached to particular spots, and for particular objects: the advantages of them are local; and when communicating with other Canals, the advantages become more general, both of a public and of a private nature. By a freedom in communication we may gain experience and improve advantages. Even a knowledge of defects, and of the causes of the failure of projects, may not be without their uses.

XXVI. Whether a good map of England may not be made, shewing the state of Inland Navigation, that would be simple in its construction without deranging other objects; the lines between the counties to be plain, and the counties to be distinguished by a few plain simple colours; rivers to be described how far they are navigable by an anchor; and the Canals with three strong colours, to distinguish those executed, executing, and projected. If the mountainous parts of the country were added, with local mineralogical remarks, &c. &c. the attention of the public might be directed to proper objects with some success.

London, September, 15, 1790. A. B.

No. 2.

NAVAL COMMUNICATIONS.

[Continued from page 8.]

To the Editor of Papers on Naval Architecture.

ON THE PRESERVATION OF TIMBER, ETC.

SIR,

I have read your little collection on Naval Architecture with pleasure, and though no theoretical or professional man, I have annexed what occurred to me on the occasion. If it gives hints to others I shall be happy in the opportunity of drawing out the sentiments of those better informed.

The art of building of vessels has been, in one shape or other, general and common to all nations and ages. Necessity has been the mother of invention; and what accident has discovered, design may have improved. The floating of trees on the surface of the waters may have given birth to the use of boats, and the hollowing of them fit for passage or burden has been an after invention.

Throughout the globe we discover a promptness and similarity of manners that is singular. Man differs but little from man in his inventions for the common purposes of life: climate and products may vary, but he soon learns how to adapt them to his wants and uses. This is peculiarly verified in the art of ship-building in all its various gradations of pettiaugers, proas, boats, sloops, &c.; the knowledge and use of them is general. In many countries or islands we find vessels used that have been only

scooped or burnt out of single trees. The ribbing and planking of vessels, with the use of sails and oars, and their size, construction, and materials, have varied and improved in proportion to the conveniences and accommodations of the several climates in which they have been found, and they have been well adapted to the occasions and wants of man in his most untutored state.

Though this system and principle has been the same, it has belonged to civilization and to commerce, among the more enlightened nations, to extend their ideas as their wants have increased; and ship-building, with all its improvements, is now become one of the greatest efforts of man in his most cultivated state. Notwithstanding our skill, we have yet much to learn, by the application of general principles to many points that have a near relation to the art of ship-building. It is not perhaps so much a question how to invent or make a floating body, as how to govern that floating body in all its varied forms by some common principles, under all given circumstances of burden and despatch in the elements they have to contend with.

From the want of uniting theory more with practice, the inquiries of our men of science have been very limited and much confined to the speculations of the closet. To become more useful, their pursuits and knowledge should be applied more to the result of experience. Our practical men have neither leisure or ability to follow up abstruse or abstracted speculations; and it may be admitted as a doubt, whether inventions and discoveries, with the improvements upon them, have not been more rapid from among practical men than from those who have had no experience beyond a speculative and theoretical education. A time may come when our attention to the higher classes of mathematics

and philosophy may lean more to points of practical utility; and perhaps none is more capable of study and inquiry than ship-building and navigation, with all their collateral branches dependent upon utility, health, and accommodation. The French have employed some of their best Academicians to write on these subjects, and with much success; and the ships they have built are strong proofs of the attention they have paid. We have built from their models, and improved upon them.

No ships have differed more from each other than those which have been built upon the same models; and so much do little causes frequently produce the greatest effects, that the same vessels have been made fast or dull sailers only by a difference in the size and positions of masts, sails, and yards, the mode of stowage, and of carrying of sail. Ships are like men, and their tempers are to be managed alike; they are tossed to and fro, the one by the elements, and the other by the caprice of passion. In ships, much will depend upon the construction, but much more perhaps upon management. Each size will be found to have a proportion peculiar to itself, and adapted to the nature of the service to which it is intended. Fishes are of all sizes, forms, and constructions, each class having its own proportion, and yet all enjoying the same common properties for the element for which they were intended. Ships are of a more complicated construction, and have at all seasons to contend with two elements, which are often at variance with each other, and are then more the governed than the governing power.

Though much attention has been paid to the choice, age, cutting, and seasoning of timber, and the mode of preservation, both in the primitive state of timber and

when worked up into shipping, yet an increasing attention may create fresh discoveries; and as a few hints may lead on to others, the following are submitted for that purpose.

In Sweden, a complaint was made that the timber floating and seasoning for the use of their navy was frequently infected with the worm. Linnæus, on being consulted, found that an insect deposited its eggs in the timber; he recommended the floating of the timber under water during the season that the insect laid its eggs. The advice was followed and the evil remedied.

The following extract of a letter from a gentleman of considerable philosophical observation, and whose situation gave him great opportunities of hearing the proposals and projects of others, having found its way into some circles, contains so much useful information, that a liberty is taken in the transcribing of it.

" A man who had been formerly concerned in ship-
" building, but for thirty years past has been a bridge-
" builder, had early in life observed, on examining worm-
" eaten ships, that the worm never eat within the seams
" where the caulking-chisel and the oil, &c. entered. He
" had observed that the whaling-vessels would be eaten to
" a honey-comb, except a little above and a little below
" water, where the whale is brought into contact with the
" vessel, and lies beating against it till it is cut up. A
" plank lying under water, at a mill of his, had been
" obliged to be renewed annually, because eaten up by the
" worm within the course of the year: at length a plank
" was accidentally put down, which for some purpose had
" been thoroughly impregnated with oil; it remained
" seven years without being affected. Hence he took the

" idea of heating the timber as much as possible, and " of impregnating it in that state with the liver-oil of " the cod-fish. He had practised this for thirty years, " and there was no instance of the worm attacking his " timbers, while those in neighbouring places were imme- " diately destroyed. He had used the liver-oil of the " cod because very thick, and therefore, as he supposes, " more permanent in its effects; he supposes some other " oils might do, but cannot speak of them experimentally. " He says there will be no difficulty in heating the planks " of a ship, after they are put on, as well as before; but I " do not recollect his mentioning ever to have tried it in " the case of a ship."

In America it is not uncommon to bore a hole at the end of timbers and pour oil into the same, from whence it soon disperses itself throughout the pores. They also apply salt between the ribs with great success. Salt-ships are known to be well-seasoned and lasting.

As the navy makes so formidable a part of our power and of the ship-building of this country, it would be a proper question to know the proportions best adapted to each rate, so as to combine burden, sailing, fighting, and accommodation for men; attending also to the size of masts and construction of sails. It may be also admitted as a question, What sized vessels are best calculated for the transportation of troops, with respect to health, safety, despatch, and national economy?

It would be an object of moment to devise some plan for the better preservation of timber between wind and water; to consider of the best mode of sheathing, coppering, and paying of ships' bottoms; and what is the best preservative against the worm and foul bottoms, when

ships are not coppered. Whether coppering of the navy has had any effect upon the timber? and whether, when in ordinary, it would or would not be advisable to let them remain in that state? Whether from the great wear and tear of a ship being principally confined to its upper works, by constant straining and exposure, it might not be advisable to strengthen those parts by additional beams and making the timbers in parts stronger? What would be the effect of laying double floors or crossways?

As ship-building forms so large a proportion of the wealth and the power of the country, the thoughts of scientific men might be turned more to the art itself, when connected with all its collateral branches; it might also be made more a part of nautical education.

At Barcelona, in Spain, (a country none of the most public-spirited in these points,) an academy is established for the noble arts, and open to all the world, where all who attend are taught, gratis, drawing, architecture, sculpture, &c. There are seven halls, and one of them has a nautical school, where every thing of tables, paper, and masters are provided at the public expense; it has already turned out above 500 good pilots. Government here, without making expensive establishments, might give encouragement and circulate information by useful books among all the lower and younger classes of officers and men.

Societies might be formed and premiums given for the best nautical and practical essays on the various branches dependent on navigation.

Medals might also be struck for successful candidates, as honour with some may prove as great a spur as pecuniary reward.

Accounts might be invited of the numberless accidents that have arisen occasioned by shipwrecks, loss of masts, rigging, sails, and rudders, and also from leaks and short allowances of provisions, with the remedies and substitutes that have been applied. A selection of them might be made for the use of the navy and merchant-service, which might serve as a vade mecum in moments of distress and danger; and to a work of so much utility and humanity the Admiralty might perhaps be induced to give encouragement and information. The loss of rudders and remedies applied might be instanced in the case of his Majesty's ship the Lion, Captain Cornwallis. The losses of masts and sails are innumerable; and it is some comfort to those in such distress, to observe that ships under jury-masts seldom founder but ride out the storm like other ships; and if they do not make such despatch in their voyages, they never invite danger by a press of sail. Seamen should be impressed with the danger and folly of deserting ships on the first alarm, when compared with the still greater risks they run from open boats in the middle of the ocean, and with short commons and no port at hand; also that ships have been frequently brought into port when deserted by crews, and that others have been lost only because they have been deserted. A seaman should never abandon hope—it should be his motto as well as his sheet-anchor; he should be strongly impressed with the idea that the buoyancy of a ship in itself in all cases will keep her long afloat when leaky; that ships will even swim when the water within is almost level with the sea without; that cargoes in themselves are frequently buoyant; and that if of a perishable nature, the packages may, however, add to that buoyancy. The preservation of

the Guardian man of war, Captain Riou, is a wonderful instance of hardships, perseverance, and safety. The narratives of Captains Inglefield, Bligh, and Wilson, with many others, might be brought to encourage confidence and banish despair.

It might be recommended to officers and seamen to encourage among themselves more the professional knowledge of the pilot. We often find expeditions and voyages retarded or defeated from the want of a knowledge of coasts and soundings, and the trusting always to men or pilots when the former cannot be procured.

It might be also a useful project to oblige all captains, on clearing out their ships from our several custom-houses, when paying for lights, &c., to take with them printed directions and drawings of our light-houses along the coasts with their bearings; the expense would be only a few shillings; it would circulate information and save many vessels that are lost, both outward and homeward bound, from ignorance or want of pilots. Under the patronage of Government and the Trinity-house, other countries might be induced to make a mutual exchange of papers and information.

Health to seamen is a great point of nautical importance, and with all our precautions hitherto, it is still capable of further improvements. Had Captain Cook's voyages been only undertaken with the idea of experiments as to health instead of discoveries, they would have proved a national object and a blessing to society, by adding to the lives, health, and happiness of a useful class of men both to the navy and to commerce. Seamen are as prodigal of their life as they are of their purse; and it is incumbent upon us to add to the security of their lives, when they

risk so much for our wealth and convenience. To guard against short commons and long voyages, ships should be induced to take in a larger stock of provisions than customary, and it would be a happy discovery if we could make some improvement in the salting and preserving of provisions.

Ventilation is another point greatly conducive to health. Ships cannot in all weathers bring their bedding upon deck; and ventilators, as at present constructed, have been rather of a passive than of an active nature. There is a machine, which from its simplicity need not be expensive, that an ingenious man has invented as a cooler in his manufactory; it is on the principle of a winnowing machine in a box open at two ends, with a long wooden trough that might be extended at pleasure; it is worked by one man, and can convey in or out of the hold of a ship good or bad air at pleasure and to a great extent.

I remember the late Mr. Blackburne, the surveyor, relating that when he was at Gloucester the gaol fever chanced to prevail there with great virulence, and the object being to ventilate a small room that held about thirty people, it was effected by the means of a small coach-wheel with little sails, placed in a box over the ceiling that had a funnel to go out of doors; holes being made in the ceiling, the air rushed through with great impetuosity, when this wheel-machine set to work and completely ventilated the gaol. It would be easy, by means of a wheel or some other machine, to ventilate actively the holds of ships in all weathers, and it would be peculiarly serviceable to tenders and transports.

I will not lengthen this letter, already too long, by an apology, but congratulate you by observing that there is

a new-invented patent wheel to pump ships without manual labour, which works, when immersed in the sea, by the resistance of the ship to the sea while sailing; at all times it will be a useful discovery, and particularly so when ships are leaky and their crews are worn down with fatigue and disease. Sincerely wishing well to your scheme,

I am, SIR,

Yours, &c.

A. B.

June, 1791.

No. 3.

ROYAL EXCHANGE ASSURANCE.

[Continued from page 9.]

COPY OF THE VOTE OF THANKS, &c.

" *At a Court of Directors, London, June 7th,* 1820.

" The Sub-Governor, by desire of the COMMITTEE " of INSPECTION, communicated to the Court the follow- " ing Resolution of that Committee :—

" The Governor, William Vaughan, Esq. having pre- " sented to this Committee a Report, dated the 29th of " May last, accompanied with several Books of State- " ments and Calculations framed and arranged by himself, " exhibiting results of our operations in the several bran- " ches of the Sea, Fire, and Life Assurances and Annuities, " down to the 30th of April, 1819, and shewing, in a " most clear, perspicuous, and combined view, the state " of the Company's affairs at that period; and it being " stated in that Report that it is the wish of Mr. Vaughan " that this said Report should be deposited with the pre- " sent and future Governors, in order to be referred to " when necessary by the Committee of Inspection:

" The Committee have resolved, and do hereby resolve, " to express and record their cordial thanks to Mr. " Vaughan for the labour, skill, and judgment displayed " by him in framing these valuable books and documents; " and do further resolve, that it will be expedient and " advantageous to this Corporation that the system and

" principles on which these documents have been framed " by the Governor, should henceforth continue to be ap- " plied to all future subsequent transactions in our several " and respective branches of business under the superin- " tendance of the Governors for the time being.

" Resolved unanimously,

" That the Governor be requested to sit for his picture, " as a testimony of the high sense the Court entertain of " the eminent services rendered by him to the Company; " and that the Committee of Treasury be requested to " superintend the execution of the same."

THE ANSWER.

" *To the Governors and Court of Directors of the*
" *Royal Exchange Assurance.*

" *London, 12th June,* 1820.

" GENTLEMEN,

" I request the Court will be pleased to accept my best " thanks for the honour conferred upon me, by directing " the Resolutions of the Committee of Inspection to be " entered upon the Minutes of this Court, respecting a " Report and Statements of mine on the concerns of the " Corporation up to the 30th of April, 1819.

" It is peculiarly gratifying to my feelings, that the Com- " mittee of Inspection and this Court have been pleased " so unanimously to approve of the plans and suggestions " in the Report and accounts presented by me, directing " the hints and regulations therein suggested to be adopt- " ed in all subsequent and future transactions, under the

" direction and inspection of the Governor for the time " being.

" The accompanying the Resolution with a request that " I might sit for my picture, I cannot but accept as an " additional token of the kindness of this Court; and the " more to be valued from its being to be placed near the " picture of one of the best of men,* whom all loved and " respected.

" I beg to repeat my sincere acknowledgements for the " honour conferred upon me; with the assurance that I " shall use my best endeavours, in the performance of my " duties, to promote the welfare and prosperity of this " Corporation.

" I have the honour to subscribe myself,

" GENTLEMEN,

" Your most obedient humble servant,

(Signed) " WILLIAM VAUGHAN."

December 4, 1821.

On a Resolution of the Court of Directors of the Royal Exchange Assurance Company that the picture of William Vaughan, the Governor, should be hung up in the Court-Room,

The Governor stated, that he should have been wanting in duty and respect, if he had not returned them his sincere thanks for the honour they had done him by permitting that token of their kindness, now before him, to be honoured with a place in their Court-Room; an honour the more to be valued from its being so seldom conferred,

* Edward Forster, Esq. Governor.

and rendered peculiarly gratifying to his own feelings from its being permitted to be the humble companion to the portrait of that excellent character who so long and so happily presided over them.

He had now spent the greatest and the most important part of his life in the service of the Company; a period too long not to be sensible that its interests were amongst his first duties, and the friendships and connexions he had formed had been amongst the happiest events of his life. That he valued their confidence and kindness with gratitude and pride, and would endeavour to discharge his duties to the best of his abilities; but when he looked at the duties he had to perform, and at the character of those who had presided in the situation which he now held, he felt, and he doubly felt, that a post of honour was not without its anxieties. He had, however, the pleasing satisfaction of having an example before him worthy of imitation. He would endeavour to follow that example, though he was sensible, that with all his exertions, he should stand much in need of all their kindness not to disappoint their expectation.

He would not move for the adjournment of the Court without returning thanks to all the Directors, individually and collectively, for all the kindness and attention he had ever received from them, and begged they would accept of his best wishes for the prosperity of the Company and for their happiness and welfare.

To the Governors and Directors of the Royal Exchange Assurance.

[Continued from page 9.]

70, *Fenchurch-street,*
December 16, 1837.

GENTLEMEN,

The Committee of Inspection on the 7th of June, 1820, having reported to the Court of Directors "that the "Governor, Mr. Vaughan, had presented to that Com- "mittee a Report, dated 29th May, 1820, accompanied "by several books of Statements and Calculations framed "and arranged by himself, exhibiting results of the Com- "pany's operations in the several branches of the Sea, "Fire, and Life Assurances and Annuities, down to the "30th of April, 1819, and shewing, in a most clear, "perspicuous, and combined view, the state of the Com- "pany's affairs at that period; and stating in the Report "that it is his wish it should be deposited with the present "and future Governors, in order to be referred to when "necessary by the Committee of Inspection; and the "Committee having resolved to express their cordial "thanks to Mr. Vaughan for the labour, skill, and judg- "ment displayed by him in forming these valuable books "and documents; and that it would be expedient that the "system and principles with which they had been framed "should be applied to all subsequent transactions of the "Company, under the superintendance of the Governors

" for the time being. And the Court of Directors having " been pleased to approve and adopt the recommendations " of the Committee, and having been further pleased to " resolve that Mr. Vaughan be requested to sit for his " picture as a testimony of the high sense the Court " entertained of his eminent services."

I was encouraged to extend my labours to the formation of a more comprehensive and consolidated statement of all the Company's affairs from its first commencement in 1720 down to the year 1824, to which I afterwards added accounts for some of the branches to 1827.

On my resignation in 1829, many of the Statements being unfinished or requiring some revision, I retained the books in my possession to complete them, which various circumstances prevented me from doing till a few months ago.

The accounts, I trust, will be found pretty correct and serviceable, and I beg now to present them, that they may be deposited at the office for the use of the Corporation, as at first intended.

In framing these accounts I have rather aimed at making them conform to the system and practice of the office than at making any alterations.

A copious Index has been given in each of the volumes, but they have been so arranged in the seventh volume, which contains the Final Report, as to consolidate them for each branch.

With the accounts, I have returned all documents which were in my possession; destroying all other papers excepting those thanks which I have received, and which I shall ever retain a grateful sense of.

Sincerely wishing prosperity to the Company, and every happiness to all those who preside over its affairs,

I have the honour to be,

GENTLEMEN,

Most respectfully,

Your sincere and humble servant,

WILLIAM VAUGHAN.

A letter of thanks was returned by the Court, dated 20th December, 1837.

No. 4.

AN ADDRESS

TO

THE BRITISH SEAMEN

AT THE

TIME OF THE MUTINY AT THE NORE, 1797,

BY

WILLIAM VAUGHAN.

[Continued from p. 13.]

Every lover of his country has seen, with concern and regret, that spirit of mutiny which has lately discovered itself in a part of the British navy. The manner and the timing of it have been disgraceful to the promoters of it. It has however been fortunately quelled by the seamen returning of themselves to their duty, from a sense of their own improper conduct. Wishing to cast a veil over the past, and to guard against a return of evils, I beg to address a few hints to British seamen, who have a character attached to them which they should be ever proud to merit, that of being respected at home and feared abroad. The country no sooner heard the complaints of the seamen than Parliament redressed their grievances, and immediately voted an increase to their pay to the amount of about £530,000 per annum to the public.

This was not confined to a particular fleet, but to the whole navy. After such an interposition, and a general

pardon, the late disturbances at the Nore could never have originated from the seamen at large in that fleet, but from the endeavours of the designing few, who misguided the seamen by false representations, and who kept them ignorant of the decision of the legislature, and of the acquiescence and approbation of the country, and of the navy, to that decision. No sooner were the seamen informed of what had been done, and of the detestation that the country entertained of their disgraceful conduct, than they broke through the bands that fettered them, returned to their duty, and delivered up their leaders to be tried by the laws of their country.

I look upon the business at the Nore as a phenomenon in the naval history of this country; and I can only compare it to a sudden frost, which for the moment congealed every power and faculty of action until followed by as sudden a thaw. Lest there should be still remaining any ice floating, I would recommend to seamen before they again complain,

1st. To look to the navy and the merchant's service of other countries, and see where seamen have been so well paid, so well fed, or so well treated as in this country.

2d. Where they will meet with so many hospitals, public and private, charitable funds and institutions for themselves and families in case of old age, accident, or death.

3d. Whether there are not thousands of foreign seamen who enter voluntarily into the British service in peace and in war, in preference to the pay and the service of the countries to which they belong.

Let seamen then learn to be content, and to enjoy the blessings they possess. Let them rouse themselves to a

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true sense of their situation and duty, and be sensible that they cannot better serve their country than to protect it in time of war; and at the termination of it, that they cannot better promote its interest as well as their own than by the exertions of peaceful industry. The nation loves the navy; it is a favoured service; if they have wrongs, their country will hear and redress them with kindness and with justice: but it has a spirit and an energy to suppress violence, tumult, and injustice.

Let them reflect, where will fifty or sixty thousand seamen when dismissed from the navy on a peace, find employment but in the merchants' service? Will merchants and ship-owners confide in men who have discovered a mutinous spirit and a want of subordination? Will they not give the preference to those who can and will work honestly and industriously for their livelihood, and who can have a good character given of them.

Let them also pause, and reflect that our commerce is a perpetual nursery for seamen; and if it should be found necessary, the legislature might by laws and regulations hold out encouragements to good men, to apprentices, and to landsmen, or grant greater privileges to foreign seamen, in order to deter and suppress that spirit of mutiny and dissatisfaction which has discovered itself among the few who will then be left to pine and repent their own misconduct, and at the want of countenance and the want of employment.

Many of the commercial and manufacturing towns of Great Britain have followed the example of the merchants and ship-owners of London; and it gave me infinite pleasure to find their resolutions have been received in the navy with so much satisfaction and effect. The thanks of the

country are due to the officers of the navy and the marines, and also to the great body of the seamen for their steadiness and attachment to their country during the late mutiny. I will not particularize ships or men, from the persuasion that they had rather receive thanks for actual and meritorious services, than from the comparative demerits of a few ships or a few misguided men. I hope the present trials will be a warning to the few misguided seamen who had been ignorantly misled.

Rouse, then, ye British seamen! Go join the brave Admiral Duncan, who with four sail of the line blockades the whole Dutch naval force in their own ports, while a British fleet ingloriously blockades the mouth of the Thames. Blot from the page of history the record of your shame, or a recollection of the transaction, by a return to your duty and by your exertions. It may be in your power to close a war honourably to yourselves, and favourably to your country. Emulated by the examples of Lord Howe on the glorious action of the 1st of June, 1794, and by Sir John Jervis' signal and brilliant victory on the 14th of February, 1797, go seek the enemy off their own ports; and may the laurels you gain secure to us an honourable and lasting peace; remember, however, that the British navy and that British seamen owe their fame, success, and national character to vigour, union, discipline, and subordination, and that without them the navy is like a ship in a storm, without masts or rudder.

THE SEAMAN'S FRIEND.

No. 5.

LORD DUNCAN'S VICTORY.

[Continued from p. 16.]

The active committee appointed to manage the subscriptions raised for the relief of the wounded, and the families or relations of those who were killed on board the fleet under the command of Admiral Lord Duncan, in the action of the 11th October, 1797, made a general statement on the 9th of July, 1801, of the total amount of subscriptions received, including dividends thereon; and the total amount of gratuities and annuities paid to those who were killed, and to the families of those who were severely wounded; giving at the same time a list of the names of those who had not been found, to whom gratuities had been voted, whether British or Foreign seamen. The gratuities to Foreign seamen that could not be found out, after advertising, and allowing twelve months, were voted to the consuls and heads of churches of the different nations to which they respectively belonged, for the benefit and relief of foreign and distressed seamen that may frequent our ports in time of peace. Out of the lapsed sums, 200 guineas were presented to the Merchant Seaman's Office, the Marine Society, and Naval Asylum Greenwich, respectively; as Institutions intimately connected with the welfare and prosperity of the commerce and navy of this country, and as tending to afford in peace and in war, relief and assistance to a number of seamen with their families who have served on board of Admiral Lord Duncan's fleet.

On the 29th October, 1802, the same committee resolved, —That forms of certificates be required of the life, age, and situation of the parties interested, and the number of their families, before they can be entitled to receive their respective annuities; and in case of death, then their widows and children to send certificates agreeably to the forms required; and to prevent unnecessary applications, none were to apply but those who had been in the habit of receiving it; and in case of death the widow or children were to apply under certain certificates and regulations. By information, and assistance of the officers in the navy, and of the magistrates, gentry, and clergy of the United Kingdom and of foreign countries, the number of cases unclaimed and entitled to relief were reduced to thirty-five out of 1,040 cases reported to have been killed or wounded; and if any of the relations of these cases will send the particulars of their claims, attested by the minister and churchwardens of the parish, they would be immediately attended to. Foreigners are equally entitled. If gratuities are not satisfactorily cleared within twelve months, the committee are empowered by the resolution in 1801, to consider them as lapsed.

17th January, 1804.—The committee endeavoured by public advertisements and other channels to find out those foreigners or their families (if any) who had an honourable and a national claim on the funds of this committee for services in defence of this country, and where they have been unsuccessful they have paid over the gratuities which the parties would have been entitled to receive, to consuls or heads of churches of foreign nations. Out of the

funds allotted for British subjects who could not be found out there has been paid to

Greenwich Hospital	£210
The Marine Society, *additional*	210
The Dublin Hospital	105
The Royal Infirmary at Edinburgh.....	105

as being public and national Institutions connected with the commerce and navy of this country. After performing the business of the day, and regretting the death of Calverly Bewick, Esq., the late chairman, they passed the following vote of thanks:—

"The Committee at the same time feel it a duty which "they owe to William Vaughan, Esq., one of their "members, to express to him and to the public their sense "of obligations for his unwearied zeal and tried integrity "in the arduous task of attending to the affairs of this "committee from its commencement to its close."

I remember, upon Lord Nelson coming from Vienna in his way from the Mediterranean, his saying that nothing redounded more to the honour of Great Britain, than the putting Foreign seamen upon the same footing as the English.

No. 6.

OF THE INFLUENCE OF SAVINGS' BANKS

ON THE

HABITS AND MORALS OF SOCIETY.

[Continued from p. 19.]

[This Paper was written for private communication, and was afterwards printed, 31st March, 1818.]

Since the introduction of the Poor Laws in the reign of Queen Elizabeth, there has been perhaps no plan which has held out so many advantages for the bettering the condition of the poor, for increasing their comforts, and promoting their happiness and moral habits, as the system of Savings' Banks.

Though the poor laws might have been adequate for the maintenance of the poor according to the state of society and population at that period, yet these laws, with all their increase of rates, powers, and regulations, have been found every way inadequate to the present state of the country, and the great changes that have taken place in the habits and manners of the people. Notwithstanding the increase of industry, commerce, and wealth, the growth of pauperism has more than kept pace with the advancement of population. The lamentable increase of distress, indigence, and criminal delinquency within these few years has too plainly shown that there must have been something radically wrong and defective in the system of the poor laws,

and that the remedies hitherto applied call for new and powerful aids to correct those evils which have so alarmingly preyed on the morals and habits of society. Savings' Banks may be considered as one of those aids, and as forming a new era in the system of political economy. They create by their operations and combinations a new power of the first magnitude by the simplest of all agents.

It has been stated that the creative powers of industry are to property, what education is to the mind; and Savings' Banks, by bringing industry and frugality into union and action, will put it in the power of every man to better his condition in life by his own exertions. In these institutions he will find a never-failing spur to his industry; a security to property, and a check to many of the evils arising from losses, plunder, and imprudence; and after providing for the common incidents of life, a friendly fund and resource at hand against the day of want, sickness, and old age.

Savings' Banks have established the great leading principles for which they have been founded; and there cannot be a stronger proof of their advantage and necessity, than the great alacrity and avidity with which they have been adopted by every class of society; and that out of the savings of industrious persons more than £600,000 has been invested in Government debentures since the passing of the late Act up to the present time.

There have been but few single deposits in the London Institutions exceeding £50 at a time, and their great bulk as to value and number have been under £5. But when it is taken into consideration, how much has been deposited in the first year of the experiment, out of the savings of industrious individuals who may have hoarded

up funds during the whole course of their lives without use, circulation, or interest, until called into activity by this system; and also how much has been further paid by weekly, monthly, or occasional deposits, exclusive of investments for children, &c.: the depositors of the first class can be of little moment, and are of little detriment to the public.

It might be further added, that every new depositor bringing a new capital into play, produces confidence and example, and affords an additional pledge to the state for the protection and security of property, and for the welfare of society; and that every man, that saves ten or £100 a year out of his income, gains the first perch to independence, and a further removal of himself and his family from a state of dependence and degradation.

When premiums and bounties are granted to encourage fisheries or manufactures, or preserve commercial interests, policy and the welfare of the community have strong claims to promote that laudable spirit of industry, frugality, and independence; which would tend to increase the happiness and comforts of society, lessen crimes and distresses, and in time to decrease many of those great parochial burthens which are oppressive to the rich and the poor.

It may be also stated that Friendly Societies are found beneficial in making a decent provision for sickness or for a man's family after his decease. Savings' Banks are not without their advantages; and by the adoption of both these plans, a man by his prudence creates a fund at all times for the common exigencies of life, and a more decent provision for his family.

Savings' Banks may also prove of the first importance in forming an early provident fund against the day of marriage, by laying up a store towards the maintenance of a family. This would decrease many of the evils that proceed from poverty and distress, which are frequently the causes and accompaniments of unhappy marriages, neglected educations, and increased poor-rates.

These hints have been suggested rather to shew the value and importance of Savings' Banks in a general and a political point of view, than that of entering into more minute and particular details.

Those who are desirons of forming and promoting Savings' Banks, will find ample resources in the reports of the Society for bettering the condition of the Poor, and in a valuable and excellent publication, entitled "The Annals of Banks for Savings."

A FRIEND TO HONEST INDUSTRY.

LONDON PROVIDENT INSTITUTION.

To Sir Thomas Baring, Bart., President of the London Provident Institution.

London, 22d Feb. 1836.

MY DEAR SIR,

The circumstances that prevented my resignation of the situation of Chairman of the superintending Committee of this Institution, at the last and eighteenth general and annual meeting, induced me to wait for the next, about to be held on the 26th inst.

This delay has redoubled my wishes to resign it; but at the same time with the gratification of witnessing another year's prosperity of this Institution, from its first establishment in 1816 to 1835. At my time of life it is my wish to enjoy that rest and repose which is so congenial to age with its approaching infirmities.

I congratulate you on the present state of this Institution; and if we were to extend our views to a consolidated statement of the receipts, payments, and balances of all the Savings' Banks in the kingdom, from their first establishment, during the period of nineteen years, to the 20th of November, 1835, with the accumulated number of deposits, they would shew their importance and influence, and that they rank amongst the most powerful agents in the system of political economy, in promoting the welfare and happiness of society.

Savings' Banks may not be unaptly compared to the young sapling thriving in a kindly soil, until it becomes like the sturdy oak of a forest, whose branches give shelter and protection to all who seek it; and it will be found that industry and temperance combined with economy will tend to promote the happiness, comforts, and morals of society.

I beg to conclude with stating some circumstances connected with this Institution, that may not be very generally known.

That the Society for bettering the condition of the Poor, about twenty years ago, first suggested the plan of establishing Savings' Banks within this metropolis: a meeting was convened, when many of its members, as well as myself, attended, when the plan was adopted, and the society gave the sum of fifty pounds each to this and to other societies towards their expenses.

This Savings' Bank repaid that sum, and a further private subscription, from some of its members. The prosperity of the Institution stands as stated in the report.

You were selected to be the first President, and I am happy to state that your name has long been enrolled as a member of the Society for bettering the condition of the Poor.

With great respect and regard

I remain,

Dear Sir,

Your most obedient servant,

(Signed) W. VAUGHAN.

LONDON PROVIDENT INSTITUTION.

At the general Annual Meeting, held on the 26th of February, 1836, Sir Thomas Baring, Bart. President, in the Chair.

A letter from William Vaughan, Esq. Vice-President of the Institution, and Chairman of the Superintending Committee, addressed to Sir Thomas Baring, Bart. and containing his resignation of the situation of Chairman of that Committee, having been read,

Resolved unanimously,

That this meeting desire to express their unfeigned regret that William Vaughan, Esq. should feel it necessary, in consequence of his advanced age and consequent increasing bodily infirmities, to retire from the situation of

Chairman of the Superintending Committee of the London Provident Institution.

That while this meeting tender to Mr. Vaughan their grateful acknowledgment of the eminent services rendered to the Institution through his indefatigable zeal, assiduity, and ability; they cannot forget, what must ever remain strongly impressed upon their minds, that he was the author of the Institution, over the government of which he has continued to extend his paternal and fostering care.

Under the influence of these feelings, this meeting desire to return their warmest and most cordial thanks to Mr. Vaughan; and to offer to him their best wishes that he may continue to enjoy many years of uninterrupted health and happiness; and their earnest hope that the reflection of his having by his philanthropic exertions largely contributed to promote the temporal welfare and moral condition of a numerous class of his fellow-subjects, may be to him a lasting source of enjoyment.

That the President be requested to communicate these sentiments to Mr. Vaughan.

Mr. Vaughan sent a copy of the Report to his friend Mr. Rogers, enclosed in the following letter:—

To Samuel Rogers, Esq.

1*st April*, 1836.

My dear Sir,

I have the pleasure to send you, as an old friend, our last Report of the London Provident Institution, for the

nineteenth year, since its first establishment, up to November, 1835, which I trust will be a gratification to you.

I should be happy if we could have you amongst us.

I am,

DEAR SIR,

Yours truly,

W. VAUGHAN.

To William Vaughan, Esq.

1*st April*, 1836.

MY DEAR SIR,

A thousand thanks for your remembrance of an old friend, and a thousand more for your communication. There is no brighter page in Homer or Milton, and happy should I be if I could look back on such an achievement as yours. But the glory was in laying the first stone. Are you in want of funds?

Yours, ever,

S. ROGERS.

To Samuel Rogers, Esq.

Fenchurch-street,
4*th April*, 1836.

MY DEAR SIR,

Yours, of the 1st instant, has been forwarded to me. I received it with much pleasure and also for its kindness.

I leave to poets to chant their thousand thanks in Homerian verse, and content myself in agreeing with you, that letters from an old friend to an old friend are not without their value, as they bring recollections which tend to make age more happy and comfortable. Yours to me gave me double pleasure as it tendered funds unasked in case of need.

In behalf of the 20,908 proprietors of the London Provident Institution I return you their best thanks for your wishes; but they beg to decline your kind offer. They find, that under this Institution, with care, pence may soon be converted into pounds. I have to state that they feel independent in having a stake in the country they live in, and have been enabled to lend, with advantage to themselves, half a million of money to the state. They also find that industry, economy, and contentment go a great way in promoting their comfort and happiness.

Connected as this subject is with the good old Dr. Franklin's maxim, I have the pleasure to send you some of his Golden Rules exemplified in the enclosed little papers, which I hope will give you pleasure.

I am,

MY DEAR SIR,

Your sincere friend,

W. VAUGHAN.

To William Vaughan, Esq.

12*th April*, 1836.

My dear Sir,

Many thanks for your last communication. Dr. F.'s excellent maxims (more precious than gold) are engraven on my heart, with many things of far less value.

I am,

Yours most truly,

Samuel Rogers.

To William Maltby, Esq. Honorary Librarian of the London Institution.

April 4*th*, 1836.

My dear Sir,

As you sometimes dine tête-à-tête with poets and bishops, I hope you will favour an old friend with your company, tête-à-tête, though no poet or bishop. I dine at home on Saturday and alone. Bring with you your appetite and budget, and we will discuss the same, and for your dessert we will have Professor Raumer's Account of England.

With great regard,

I remain, dear Sir,

Yours, sincerely,

W. Vaughan.

To William Vaughan, Esq.

London Institution,
April 4th, 1836.

DEAR SIR,

I certainly sometimes dine with poets and bishops, but I can sincerely say that nothing delights me more than a tête-à-tête with an old friend, and I shall have great pleasure in waiting on you next Saturday.

Believe me,
Yours, very truly,
W. MALTBY.

USEFUL HINTS FOR THE LABOURER,

PUBLISHED BY

The Labourers' Friend Society.

POOR RICHARD'S ALMANACK EXEMPLIFIED.

Poor Richard's Almanack, written by Dr. Franklin, contains a volume of useful maxims for the conduct of men in every station of life, and should be hung up in every cottage.

It begins by stating we complain of the taxes by government; but we are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly; but if we lessened some of these useless taxes on ourselves, we should feel little from the others; adding, God helps them that help themselves.

These excellent maxims have been fully exemplified by the history of two men, who had nearly the same prospects of success in life, but who, from *different habits*, would probably have come to different ends, if the kindness of the one had not saved the other from ruin and destruction.

John Smith was industrious, prudent, and saving; read his Bible, and paid a due respect to Sundays, and had got on in the world; and when he saw he could afford it, he took unto himself a wife, for economy, comfort, and happiness.

John Careless was naturally kind-hearted, with many good qualities, and had more readiness and activity of mind and body than *Smith*, but was more easily led astray into bad company; with a fondness for dress, and singing a good song, he soon raised himself to be the head of the club at the Red Lion.

He became dissipated; and neglecting his business, it soon forsook him; and, by way of consolation, he took to the use of ardent spirits, to drown his cares, and, as he used to say, to keep up his spirits and to warm his body.

The landlord of the Red Lion, finding *Careless* a useful decoy to bring customers, permitted him to run up a score, and a double one on a Sunday at the skittle-ground; but he took special good care to add another to it for *interest*.

The day of reckoning at last came, and the landlord threatened him if he did not pay off his debts.

Careless had become too indolent to work, and did not know what to do; but at last resolved to apply to his friend, *Smith*, to lend him *ten pounds*, although he did not know how or when he could repay the same.

Smith had a regard for *Careless*, whom he had known at the village day-school; and, wishing to save him from

ruin and destruction, resolved to make an experiment, and, induce him to *make a promise* which if he would punctually perform, he told *Careless* he would lend him twenty pounds on the following conditions:—

First, That he would promise to leave the club and the Red Lion; compromise with the landlord by the payment of one half his score; and lay out the remainder of the loan in clothing and tools, and he would find him in employment.

Next, That he should apply his weekly wages for food and raiment, and his savings from over-time should be honourably placed into a savings' bank to redeem his loan.

Third, That if he ever went to the club or to the Red Lion, he should, of himself, put double the amount of his score into the savings' bank; but if ever he should get intoxicated, he should tax himself *trebly;* and that he should hang up Poor Richard over his chimney. It should be left to his own honour to keep these regulations.

Careless was at first startled at these conditions; but an event soon happened which induced him to make the promise.

The landlord pressed for payment. *Careless,* with all his failings, was unwilling to go to prison, and equally disinclined to associate with thieves and house-breakers, or to be transported or hung. He consented to make the promise, and having made it, he kept it.

Careless became sober, industrious, and saving; and soon paid off his loan, and had five pounds in the savings' bank at interest.

As little habits, whether good or bad, often become greater, he soon found that the power of industry led to

independence, and that, whilst he was working, his very savings turned to gains, and that his deposits were at interest.

It gave a new turn to his mind and to his exertions. He entered his name as a member of a temperance society, and soon lost his cough and dismissed his doctor, which was a further saving. His health became restored; and he found that industry and clothing produced more food, warmth, and comfort, than all the ardent spirits at the Red Lion.

Careless called upon his friend *Smith*, to thank him for his loan, but still more for his friendly advice; but he had now still a *further want*, and wished to consult him about it. Seeing his friend *Smith* was well off in the world, comfortable and thriving, with a wife and children about him, he wished to follow his example, and take unto himself a wife, as he could now afford to maintain one.

That he had met with a young woman of good temper and prudent conduct, who he thought would make him happy, and whom he wished to make so; but he had determined, in his own mind, to keep the golden rule he had practised by *Smith's* advice—that of putting all his savings into the savings' bank, in the joint names of his wife and himself, as the surest mode of keeping from the Roaring Lion.

Careless married; became industrious and happy; and, by the prudent conduct of his wife, he brought up his children with good and virtuous habits. He became respected; and soon lost the character of *Jack Careless*, and became better known by the name of *Careful John*.

W. V.

No. 7.

Extract from the Address, delivered by His Royal Highness the Duke of Sussex to the Fellows of the Royal Society; dated 30th November, 1837.

[Continued from p. 37.]

After the Duke had stated that Her Majesty had signed her royal name as Patroness of the Royal Society, he goes on to say,

" I now proceed to notice some of the more important " events connected with the administration of the Royal " Society during the last year.

" One of the royal medals has been adjudged to Mr. " Whewell, for his valuable series of Researches on the " Tides, which have been published in our Transactions, " chiefly during the last three years. I must refer you, " Gentlemen, for a statement of the grounds upon which " this decision has been founded, to the more detailed " reports of the Council, which will be read to you by " your Secretary, Dr. Roget; but I gladly avail myself " of this opportunity of expressing my respect for the " great talents and varied attainments of the distinguished " philosopher, upon whom this mark of honour has been " conferred. If I regard him as occupied with the highest " and most important practical duties connected with our " system of academical education, and in providing and " arranging the materials by which it is conducted, or the " principles upon which it should be based, he will be " found in the foremost rank of those whose labours do

" not deserve the less honour, because they commonly " absorb the entire time and attention of those who are " engaged in them; and thus close up the avenue to those " distinctions which are almost exclusively confined to " great discoveries in science, or to important productions " in literature. When I read his essays on the architec- " ture of the middle ages, on subjects of general litera- " ture, or on moral and metaphysical philosophy, exhibiting " powers of mind so various in their application and so " refined and cultivated in their character, I feel inclined " to forget the profound historian of science in the accom- " plished man of letters or the learned amateur of art; " but it is in his last and highest vocation, whilst tracing " the causes which have advanced or checked the progress " of the inductive sciences, from the first dawn of philo- " sophy in Greece to their development in the nineteenth " century; or in pointing out the marks of design of an All- " wise and All-powerful Providence in the greatest of " those works and operations of nature, which our senses " or our knowledge can comprehend or explain, that I " recognise the productions of one of those superior minds, " which are accustomed to exercise a powerful and lasting " influence upon the intellectual character and specula- " tions of the age in which they flourish.

" It is now three years since the royal medal was ad- " judged to Mr. Lubbock for his Researches on Tides; and " the Council have availed themselves of the first oppor- " tunity which was presented, by the recurrence of the " cycle of the subjects which are successively entitled to " the royal medals, to make a similar award to his col- " league and fellow-labourer in this very interesting and " important series of investigation. It is not for me to

" attempt to balance the relative claims and merits, in " connexion with this subject, of these two very eminent " philosophers; it is quite sufficient to remark, that the " first who ventured to approach this difficult and long " neglected inquiry was the first also who was selected for " honour; but I have long noticed, with equal pride and " satisfaction, the perfect harmony with which they have " carried on their co-ordinate labours, apparently indiffe- " rent to every object but the attainment of truth; and " altogether superior to those jealousies which too fre- " quently present themselves amongst rival and contem- " poraneous labourers in the same departments of science.

" Those who have attended to the Tidal Researches of " Mr. Whewell, must be aware how much light has been " thrown upon the character and course of the phenomena " of the tides by the simultaneous observations, under his " instructions, which were made in the month of June, " 1834 and 1835, at nearly five hundred stations of the " Coast Guard Service in Great Britain and Ireland; and " simultaneously with the latter also at more than one " hundred stations in America, Spain, Portugal, France, " Belgium, Holland, Denmark, and Norway. These ob- " servations were undertaken by the authority and through " the influence of the Government of this country, which " likewise most promptly and liberally furnished the re- " quisite funds and assistance for reducing the Observations " in such a manner as was requisite for deducing general " conclusions from them; a labour much too extensive and " costly to be undertaken by any single individual.

" I gladly seize this opportunity of bearing testimony, " occupying as I do the highest scientific station in this " country, to the readiness which the Lords of the Trea-

" sury and the Admiralty have shown on this and on " every other occasion to forward scientific inquiries, and " particularly such as are connected with the advancement " of astronomy and navigation. They have granted funds " for reducing and publishing the Planetary Observations " at Greenwich, the valuable and extensive series of Ob- " servations of the late Mr. Groombridge, for repeating, " on an adequate scale, the very important experiments of " Mr. Cavendish, and for many other subjects of great " scientific interest and value; and I feel satisfied that " every application for assistance towards the accomplish- " ment of any important object in science, will receive " from them the most willing attention and support, if it " comes before them with the recommendation and autho- " rity of those persons who are most competent to judge " of its usefulness or necessity, and in such a form as " may justify them in appealing to Parliament for its " sanction of the requisite expenditure. I rejoice, Gen- " tlemen, in such manifestations of the sympathy of the " Government of this great country for the progress of " science; and I trust that its influence will be felt in " the cordial union and co-operation of philosophers in " planning and in executing those great systems of Ob- " servations, whether simultaneous or not, which are still " requisite to fill up some of those blank spaces which " occupy so large a portion in the map of human know- " ledge."

It may be here stated, that this country has ever been desirous to encourage a mutual exchange of knowledge with other countries in objects of science.

The friends of Professor Bowditch being desirous that

he should be made an Honorary Member of the Royal Society, I communicated the testimonials which had been transmitted to me, to Sir Joseph Banks, the late President. He was pleased to state, that he thought that Professor Bowditch would be a very proper person for the honour; and after taking down, at his request, the form of the certificate required, he stated that he would sign it himself, and get some of the Council to do the same; he then returned it to me for my signature. Mr. Bowditch was duly elected, and I afterwards took similar measures to procure his election as an Honorary Member of the Royal Societies of Edinburgh and Dublin with success.*

The Commissioners of the Public Records have been pleased, with great liberality, to present sets of their Reports to some of the public bodies and institutions of different States of the United States.

* I regret to state that society has met with a great loss in the death of Professor Bowditch, at Boston, aged 65 years; and having early obtained an interesting Memoir of his Life, delivered by the Rev. Alexander Young, an Eulogium by Judge White, and a Memoir by Mr. Pickering, on the occasion of his death, in March, 1838, I transmitted the same to the Council of the Royal Society.

It may be further stated that the family of Dr. Bowditch has appropriated his valuable library to the use of the public. It contains a large collection of philosophical and scientific works. The family has likewise given up the use of the apartments for it in the house in which they lived at Boston, to favour those objects; and it is hoped that those Societies in Europe, which have presented him with their Transactions, will be induced to continue them to the Bowditch Library.

The Duke of Sussex, in his Address to the Royal Society, on the 30th November, 1838, paid a high tribute to the talents and acquirements of this distinguished philosopher.

It is owing to the zeal and activity of my brother, John Vaughan, Esq., of Philadelphia, well known and much respected, and Treasurer of the American Philosophical Society, that I have been enabled to negociate exchanges or presents of the Philosophical Transactions of the Royal and other Societies in this country and on the continent, with the American and other societies and literary men of America, which has tended to strengthen the union of science and good feeling between the two countries.

It may be interesting to my friends to state here that my youngest brother, the late Samuel Vaughan, Esq., of Jamaica, of which island he was many years a resident, was for some time Member of the Assembly, and for a number of years an Assistant Judge of the Grand Court and Custos Rotulorum of the Parish of St. James. During the period of his holding these offices, and, indeed, while he resided in the island, he, both publicly and privately, exerted himself for the gradual amelioration of the negro population, and not without a beneficial effect. He also wrote some interesting, able, and conciliatory papers "in defence of the Colonies," rebutting and refuting many of the aspersions and calumnies thrown out against them. He died in that island in 1827, much respected and regretted.

Whilst John W. Lubbock, Esq. and Professor Whewell were communicating their discoveries and observations on tides, Professor Hassler, with whom I had been long acquainted, transmitted to me some copies of observations which he had made on the tides and coasts of America, by order of the American Government, and with it a report upon weights and measures, which I distributed to the Royal Society and other bodies and scientific persons. I

obtained a complete set of all his reports, and I transmitted them to Captain Beaufort, Hydrographer to the Admiralty, at his request. He received them with pleasure, and wrote a letter himself to Professor Hassler, which I forwarded. Mr. Hassler transmitted a copy of the same to the American Navy Board at Washington; it was published in the American Globe, a Government paper, and afterwards in the John Bull of the 28th of January, 1838; and I with pleasure give a copy of it, as follows:—

Admiralty, 6th July, 1837.

"DEAR SIR,

"I have to acknowledge, with many thanks, the receipt "of your very valuable work on Weights and Measures, "and also of your correspondence on the Coast Survey.

"The Lords of the Admiralty have commanded me to "thank you on their part also; and their Lordships, the "public, and all the men of science in the country "heartily join with me, in the earnest wish that the pre-"liminary correspondence will have so completely cleared "away all official difficulties, that you will be now able to "advance with rapid strides that great and laborious, but "unspeakably important enterprise which the Government "of the United States have so judiciously confided to "your management.

"That the Government may now effectually support "your efforts, and that your health may be equal to the "various and constant demands upon it, are the sincere "wishes of,

"Yours, faithfully,

(Signed) "F. BEAUFORT."

MISSIONARY SOCIETIES.

[Continued from p. 66,]

In closing the hints and sketches on various subjects in the preceding pages, it may not be uninteresting to take a summary view of what England was in former ages, compared with what it is in its present state. England at one period, as well as Europe, was almost uncultivated and uncivilized, and they have required centuries to make them what they are. They have had their convulsions, wars, revolutions, and reformations; and have been under feudal and other systems.

Civilization and liberty had been for ages little understood, and may be compared to wild plants that require the hand of cultivation. England was amongst the first countries that began to improve; and among other causes, it was to Alfred that we were indebted for Trial by Jury, which secured rights and property, and formed one of the great pillars of our constitution.

The introduction of Christianity also caused a great revolution and improvement in our morals, customs, and habits. The BIBLE is now to be found in all churches, schools, and seminaries, and generally in all families. It inculcated moral and religious habits, and promoted the objects of civilization and the best rules for our conduct in life. It has taught us contentment, and is our best consolation in times of distress, age and infirmity, and holds out brighter prospects in a future state. In England, attention is generally paid to an early education in all classes of society, and to the encouragement of public and private virtue throughout the country.

There have been few countries that have taken so deep

an interest in the printing, translating and circulating the Bible and New Testament to all parts of the globe as England. By means of the New England Corporation for the civilization and conversion of the Indians in North America, founded in 1661;* the Society for promoting Christian Knowledge, founded in 1698, and the Society for the propagation of the Gospel in Foreign Parts, founded in 1701; the Moravian Society; the British and Foreign Bible Society, and by Missionary Societies of all denominations; the BIBLE has been translated by them into very many languages, and distributed extensively; particularly in the East Indies and amongst the many clusters of Islands in the South Seas, as well as in New Holland, Van Diemen's Land, China, America, Athens, Arabia, Africa, &c., many of them having printing-presses; and in Ireland the circulation of the Bible is becoming more extensive.

It will be found by experience, that giving Missionaries the best education, with a knowledge of the language, manners and customs of the countries they visit, will with the aid of artizans, and a knowledge of medicine, best promote the objects in view; and that Missionaries with wives and children will be found calculated greatly to promote civilization in the world. All these Societies expend on these objects about £500,000 per annum; to which may be added £50,000 per annum expended by similar Societies in America for sending Missionaries to Africa, Persia, China, Greece, Arabia, and other countries

* The celebrated Robert Boyle was the first Governor of this Corporation, and was equally zealous for the promotion of Christianity in different parts of the world.

in the East, and to the back parts of the United States, with Missionary printing-presses, &c.

The reign of George III. is another important event in the history of this country. Amongst many of the advantages in this reign have been voyages for discovery and science, and we are now beginning to reap their happy results. And the Islands in the South Seas, Australia, Van Diemen's Land, and others, are rising in population, civilization, and commerce; and if the discovery of America has produced great events, similar results will, it is hoped, be produced by the discovery and settlements of the Islands in the Southern Hemisphere and New South Wales. Almost all the islands have been visited by navigators, whalers, and Missionaries. The Americans are carrying on an extensive trade in this hemisphere, and there is no knowing how great may be the result of things in these quarters within the next century. Sydney, in New South Wales, which was first made a refuge for convicts, is now becoming a seat of commerce, emigration, civilization and education; and Van Diemen's Land and other parts of Australia are now rising into importance.

If England thought it good policy to transport its convicts to New South Wales, which operation has been partly increased by the mitigated punishment of transportation instead of death; it will on the other hand be found that many convicts have carried with them their idle and vicious habits, and require the strong hand of power to govern them, as well as religious and moral instruction to humanizé and reform them. They form the worst class of persons for colonization, and many of them have taken up a system of piracy, which is fast gaining ground in

Australasia and Polynesia. But it is hoped, that from the great extent of the emigration of free settlers, with their wives and children, and from the recent determination of Government, to discontinue the transportation of convicts to those countries as soon as possible, and an extension of schools, that the religious and moral state of society will soon be greatly improved in that quarter of the world.

No. 8.

RUSSIAN CORRESPONDENCE.

[Continued from p. 41.]

From the Rev. James Smirnove, Chaplain of the Russian Legation, &c. &c. to William Vaughan, Esq. London.

December 1*st*, 1802.

SIR,

Some time after I had the honour to visit the West-India Docks and to dine with you last year, having observed the great wish which you had expressed to procure plans of some of the Russian Canals, I wrote to his Excellency Admiral Mordwinoff, Vice-President of the Imperial Admiralty, respecting your desire; and his Excellency having mentioned it to the Emperor, his Imperial Majesty was pleased to order that a Plan of the Canal at Crondstadt, and also an hydraulic Map of Russia, expressing all the Canals which are already executed, and all those which are only projected or intended for execution, should be transmitted to you.*

* This hydrographic map is in a mahogany case, with the following inscription:—

Hydrographical map of Russia and the Docks at Cronstadt,
Presented by
HIS IMPERIAL MAJESTY ALEXANDER THE FIRST
TO WILLIAM VAUGHAN, ESQ.
1802.

At the foot of the map is attached the correspondence, with explanatoins of the Russian characters in English.

Having lately received them from his Excellency Admiral Mordwinoff, I take the liberty herewith to transmit them to you; and I feel myself extremely happy, Sir, to have had it in my power to do an agreeable thing to a person of so distinguished merit, and who has employed so much zeal and talent for the good of commerce and the public welfare.

I have the honour to be, with great regard,

SIR,

Your most obedient humble servant,

JAMES SMIRNOVE.

THE ANSWER.

London, February 3*d*, 1803.

DEAR SIR,

The loss of my father, and an attention to family concerns, prevented my returning you my thanks as soon as I could have wished for your great readiness in promoting my wishes in procuring the Plans of the Canals of Russia; I feel myself not only greatly indebted to your kindness, but much honoured by the gracious manner with which the Plans of the Canal at Crondstadt and the Hydraulic Map of Russia, denoting the Canals of that country made, executing, and in contemplation, have been conveyed to me through you by his Excellency Admiral Mordwinoff, Vice-President of the Imperial Admiralty, at the command of his Imperial Majesty of all the Russias.

I beg you will convey, through his Excellency, my most respectful thanks and acknowledgements to his Im-

perial Majesty for the same, with the assurance that I esteem them as being a valuable acquisition to the collection of documents on Canals and Docks, which I have been making for some years, in order to accomplish objects I have had much at heart; and you will much oblige me by requesting the Emperor and his Excellency to honour me by their acceptance of some Tracts favourable to the formation of Docks and of a Free-Trade.

The plan for forming Canals in Russia, and of uniting by them its great rivers with its great outlets, is truly princely and worthy the adoption of a great nation. Friendly to internal improvement, I have always viewed with pleasure the growing objects that promoted them, from their happy tendency to call forth into activity that industry which contributes by pacific means to the comforts and happiness of society; and nothing tends perhaps so much to change the face of a country, or the manners of its people, as the effects produced by canals, good roads, and railways, which so greatly facilitate the means of supplying the wants they create. I hope as all conntries advance in countenancing national industry, and as their external wants increase, commerce may cement their union by a pacific system that may prove happy and beneficial to them all.

With the sincere wish that England and Russia may ever retain such an intercourse, I beg to subscribe myself, with great regard,

DEAR SIR,

Your most obedient humble servant,

WM. VAUGHAN.

From Vice-Admiral Chichagoff, Vice-President of the Imperial Admiralty, to William Vaughan, Esq. London.

St. Petersburgh,
October 30th, 1803.

SIR,

Having laid before his Imperial Majesty the Books and Plans which you sent of the London-Docks, I have the honour to acquaint you with his Majesty's gracious reception and approbation of them; as a testimony of which, his Majesty has been pleased to send you a diamond ring, which you will receive with this letter from the Reverend James Smirnove. It is with particular pleasure that I communicate it to you, and I have the honour to remain,

SIR,

Your most obedient humble servant,

P. CHICHAGOFF.

THE ANSWER.

London,
December, 17th, 1803.

SIR,

I have been honoured with your Excellency's letter of the 30th October, informing me that his Imperial Majesty the Emperor of All the Russias has been pleased to accept of my collection of Tracts upon Docks and Free-Trade; and that he had also graciously condescended to notice my endeavours on these subjects by directing an elegant

diamond ring to be presented to me, which I have received through the Rev. Mr. Smirnove.

I beg you will lay before his Imperial Majesty my most grateful acknowledgments, for this distinguished mark of his approbation of the exertions of a private individual in a foreign country, for the promotion of objects of general utility; and I am persuaded that I am indebted for his Majesty's notice and kindness for the Maps of the Canals of Russia and Crondstadt, and for this fresh instance of his condescension, to the liberality of his own princely spirit, and to his feeling so lively an interest in what tends to promote the happiness and welfare of society.

If I should be induced to think more favourably of my labours than I have done, it will be from the public having sanctioned the Plans by their adoption, and from their having attracted the notice of the enlightened Sovereign of a Great Empire. Permit me to return you my sincere acknowledgements for the handsome manner in which you have conveyed his Majesty's pleasure.

I am, with great respect,

SIR,

Your Excellency's most obliged
and obedient humble servant,

WM. VAUGHAN.

His Excellency,
Vice-Admiral Chichagoff,
&c. &c. &c.
St. Petersburgh.

THE END.

ERRATA.

Page 29, *line* 10, *read* an Entrance at Shadwell *instead of* a Cut at Bell Dock.

Page 39, *line* 16, *read* Captain Walton *instead of* Mr. Pearce.

MARCHANT, PRINTER, INGRAM-COURT, FENCHURCH-STREET.

COLLECTION OF TRACTS

ON

WET DOCKS

FOR THE

PORT OF LONDON;

WITH

HINTS

ON

TRADE AND COMMERCE,

AND ON

FREE PORTS.

INDEX OF TRACTS.

1. On Wet Docks, Quays, and Warehouses for the Port of London, with Hints respecting Trade 1793
2. Plan of the London Docks, with some Observations respecting the River, immediately connected with Docks in general and the Improvements of Navigation 1794
3. Letter to a Friend on Commerce, Free Ports, and London Docks 1795
4. Examination of W. Vaughan, Esq. in a Committee of the House of Commons on the Trade of the Port of London, 22d April 1796
5. Reasons in favour of the London Docks, printed in 1795 and 1796, and now reprinted with some alterations in 1797
6. Answers to objections against the London Docks..... 1796
7. Resolutions of a General Meeting of Subscribers to the London Docks 1796
8. Comparative Statement of Docks in Wapping and the Isle of Dogs 1799

PLATES.

1. Plan of the London Docks in Wapping, with a Cut to Coal-Stairs, Shadwell, as proposed in 1794
2. Plan of the London Docks in Wapping, with a Cut to Blackwall, as proposed in 1796
3. Section of the River, Locks, Basins, and Docks in Wapping at Spring and at Neap Tides 1796

N.B.—The Plan, No. 1, differs a little, in form of the Dock A and C, from the plan as stated in Mr. Powsey's Plan, 1794.

N.B.—As only a few copies of some of the minor Tracts relating to the Docks now remain on hand, and as the Docks have been long since completed, it has not been deemed expedient to reprint them.

ON

WET DOCKS,

QUAYS,

AND

WAREHOUSES,

FOR THE

PORT OF LONDON;

WITH

HINTS

RESPECTING TRADE.

PART I.

LONDON.

1793.

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PREFACE.

PREFACE.

THE following observations were drawn up for private communications, but for convenience, some copies have been printed, to circulate in private channels where they may be thought useful. The object has been to remove prejudices, to quiet claimants, and to unite great leading and commercial interests in an application to Parliament for the creation of Docks, as one of the best securities and encouragements to our commerce, and prosperity to our country.

The growing distresses in the port of London require some remedy, and there never was a better opportunity than the present, for mercantile and city interests to join in an application. If private meetings were formed to propose and digest plans, and also to influence leading interests in favour of them, government would not be adverse to improvements, and their sanction would lessen opposition.

The proposed schemes are submitted with deference, and will be found, perhaps, on the whole, to unite the greatest number of benefits with the fewest inconveniences, and, finally, with the least expense. If otherwise, it is hoped that the neces-

sities of the times will give birth to a more useful and a more successful plan, and one that will be adequate to our growing and our present wants. It should, however, be observed, that no scheme on this subject can be good, that does not comprehend *new quays as well as new warehouses.* Any map of London will shew the *small extent* of legal quays from London-Bridge to the Tower, the *little* that can be *added* to them; and also the advantages of the proposed docks, from their great vicinity to the seat of commerce.

It may be here remarked, that no predilection, whether arising from interest or favour, is entertained for any specific plan; it being intended as much as possible to convey general principles applicable to *any plan,* and to shew that necessity calls for some change, and that it cannot take place too soon.

The tables in the Appendix, notes, &c. have been formed from public documents, or from respectable private channels. The accuracy of the informations of the latter cannot be questioned, and to them many acknowledgements are due.

London, Dec. 14, 1793.

GENERAL

GENERAL HINTS, &c.

THE situation of London is inland, and convenient to internal intercourse. The navigation of the Thames is extensive, and affords a safe and commodious harbour, or floating-tide-dock, for shipping, for some miles. Formerly, it only needed small craft to load or discharge the ships that frequented the port; but London has now far outgrown its accommodations, and, with an external commerce, infinitely greater than it had at the great fire in 1666, (having perhaps near three-fifths of the trade of the whole kingdom,) it possesses only the same legal quays which it did in Charles the Second's time. They cannot be estimated at more than *fourteen hundred feet*, or little more than one quarter of a mile on one side the Thames, *beginning at London-Bridge and ending at the Tower*; while the city of Bristol commands more than *four thousand feet*, or four-fifths of a mile, on the rivers Avon and Frome, though with a trade beyond all comparison inferior.

All agree that the legal quays are too small; and the very remedies and indulgencies that have been applied from time to time, of shipping and landing certain goods at other than the legal quays by sufferances, (satisfying the officer for extra-duty,) are the strongest proofs of the existance of the evil. Perhaps near three-fourths of our imports and exports, as to *bulk*, are managed by water, or sufferance-wharfs, and not at the legal quays. The utility and necessity of sufferance-wharfs, have been tried and admitted,

mitted, without detriment to commerce, revenue, and the legal quays. These remedies, extensive and habitual as they have become to many, if not to almost all, of our most bulky articles of commerce, are not however at present adequate to our wants.

While other branches of commerce have met with some or with general relief, by an extension of wharfs, the WEST-INDIA trade has been for years labouring under the severest burthens from delays, charges, losses, and plunderage. Except the article of woods, that trade, notwithstanding its great increase, has continued for about 130 years in the same track. It is therefore necessary from increased imports, and the growing impediments to commerce in all its branches, to apply some remedy; and none can be more effectual than the creation of DOCKS and QUAYS, with an extension of warehouses.*

LIVERPOOL owes every thing to its docks and spirit of enterprize. Its town and corporation have not only entered into them with great spirit and success; but they have been laying out large sums in improvements in streets and buildings. In 1792, there were no less than 4,483 ships which entered into their docks, producing a dock-revenue of £13,243 : 17 : 8, their ships meeting with immediate dispatch in outfit, loading, and discharge.†

HULL is also much indebted to its dock, commanding an extensive commerce. Ships in the river pay, as well as

* See Appendix D. for the state of this valuable trade.

† The dimensions of these Docks, besides three Dry and five Graving Docks, are

	Long.		Broad.		Size of Dock-Gates.	
	in Yds	in Feet	in Yds	in Feet	Clear Width	Depth
George's Dock	246	738	100	300	38 3	26 2
King's Dock‡	272	816	§ 95	285	42	26
Queen's Dock	280	840	§120	360	42	27
Old Dock	191	585	§ 85	255	33	25 3
Salt-House-Dock	§213	665	102	306	34	
Duke of Bridgewater's Dock					41	26

§ On an average.

‡ A plan is at this time before the Dock-Committee for altering and enlarging the present docks and for erecting additional new ones. It is proposed to increase the width of the King's and George's Dock to the width of 120 yards *at least*. The King's Dock will hold ninety vessels of 200 and 400 tons, and will accommodate twenty-eight to load and unload at the same time. The other docks are in proportion. In the Appendix F. there is an account of the number of ships and dock-revenues from 1753 to 1793.

those

those in the dock.* It is at this moment under consideration, even to erect *two* further docks, and to communicate them with the river Humber.

BRISTOL has a small dock; but, in general, its shipping frequent the river, and lie dry every ebb-tide: to avoid which, it has been some time in contemplation to make the whole river Avon a perpetual wet dock.

GLOUCESTER is now making a large navigable canal from thence to the river Severn, for ships of three hundred tons burthen. The distance is about twenty miles, the breadth about seventy feet, and the depth about eighteen feet and a half.

HAVRE DE GRACE possesses several large wet docks, on very extensive scales.† They are now making one or two more in the same magnificent style, that may each contain 160 or 170 ships a time.

OSTEND forms a bad harbour, but possesses a large noble wet bason: it is capable of holding a great number of ships at a time.

CHERBOURG is also another instance of great public exertions for public utility, in order to make a safe and commodious harbour for the largest ships, and even fleets.

LONDON, though the first city for commerce, and possessing within itself the most powerful internal means of supporting docks on the most extensive plans, has been the last, except in the case of two spirited individuals, to try the experiment.‡ With the example and experience of other cities and countries, London is capable, from situation, to take the lead in docks, with as much distinction and pre-eminence, as she does in the extent of her commerce. Situations are to be found on the river, capable

* Hull-Dock contains 48,188 square yards, or nearly ten acres of ground. It is about 480 yards, or 1440 feet long, and 88 yards or 264 feet broad, and has accommodated 130 sail of such vessels as frequent the port.

† The exact dimensions of these docks that are completed cannot at this moment be given with great accuracy; but they may be about the following sizes:

The *Old Dock*, about 650 feet long, 160 broad, contains about forty ships, or perhaps fifty sail, if freed from small craft.

The *New Bason*, 1900 to 2000 feet long, 300 feet broad, holding about 160 good-sized vessels at a time. The depth of water at neap-tides is about fourteen feet: at spring-tides, twenty feet and upwards.

‡ Mr. Perry's Dock, at Blackwall, and Mr. Wells's Dock, at Greenland-Dock; the one standing on about twelve acres of ground, the other on about eight acres, and they can each contain a great many ships.

of

of making *Wet Docks* of any size, for loaded and for light ships. In the point of choice, those should be preferred which would in the first instance unite the most immediate benefits, and lessen the opposition of interests and of prejudices. Experiment will confirm the utility of them; and, when one has once been made, others in time will follow. Difficulties will present themselves to every scheme, but no inconvenience can be against any so strong, as the great burthen and disadvantage which the Commerce of London sustains from the want of an extension of quays and wet docks. It is sincerely to be wished, that contending interests in favour of particular spots may not cause a miscarriage in the first outset, but join to put the system in motion, as the growing commerce of London will be found capable of adopting all of them.

The PLAN for WET DOCKS for LARGE SHIPS.

THERE is a large plot of ground, which, from the lowness of its situation, and its vicinity to the river and to the seat of commerce and consumption, is capable of forming one or several large wet docks, with wharfs, warehouses, and accommodations, on the most extensive scale, for the reception of vessels of three hundred and four hundred tons, to discharge their cargoes with safety and dispatch, without the aid of lighters and craft.

Its situation is in a hollow way, between Radcliff-Highway and Wapping. It extends, in length, from about Nightingale-lane to New Gravel-lane; the distance being perhaps about 1045 yards, or 3130 feet; and, in breadth, from Pennington-lane to about Green-Bank in Wapping, being about 583 yards, or 1600 feet. The space contained in it is not greatly inferior to the total extent of the docks at Liverpol.

If embankments and houses did not prevent it, this spot at present would be overflowed by the tide. It is mostly an uncultivated waste, and much of the rest is laid out in garden and gardeners' grounds; being intersected with but few straggling buildings; all of them small, some new, but mostly old, bad in condition and fame, and of little value.

There is there already a *vacant space unoccupied* by any buildings, large enough for an extensive dock and warehouses of large dimensions, upon pulling down a few straggling

gling houses; and, if there was due encouragement, by the removal of a few inferior streets that are intersected with gardens and with rope-walks, there would be room for several docks of large dimensions, with every accommodation for wharfs and warehouses, &c. and be capable of being insulated by walls and surrounded by roads, and the *whole tending towards* the city.

The *depth of water* in the adjoining part of the river is equal to ships of any burthen that pass Deptford. If necessary, however, a small projection might be made on the banks of the river (which are always dry at low water). This projection would not intercept the navigation of the river, which is generally limited to mid-channel; and within this projection a passage might be dug, leading from the river to the docks. Bell-Dock, and places adjacent, would afford considerable depth of water for the passage; and (except by cutting through Wapping-street at right angles) Wapping would only be disturbed by the sacrifice of a few small and retired houses.

Perhaps another entrance might be practicable at no great expense into the Thames from Blackwall, through the Isle of Dogs. It would save a long and troublesome navigation round the Isle of Dogs, which is now accompanied with delays from wind and tides. It would also avoid the Pool, and leave the river freer for navigation and mooring; lessen accidents, save the expense of chains, the wear and tear of anchors and cables, and prevent robberies from river-pirates. This cut might be so made, as even to aid the navigation of those ships that intend to moor in the river.

Docks and Warehouses might be extended according to wants and funds. Particular lines of commerce might be kept as much as possible together; and warehouses and vaults might also, for convenience and safety, be subdivided for the reception of bonded commodities, &c. under the same regulations as at present.

Large and commodious docks and warehouses might be further made also at the *Hermitage* and at *St. Catharine's*, having communications with the Wet Dock and with the river. The lands lie low, having every accommodation for quays, warehouses, and cranes, on an extensive scale; and are equally capable of insulation to prevent fires and plunder. In these two districts, also, are many waste spots, gardens, and squares; the whole, comparatively speaking, having but a very few intervening houses, or small streets and courts,

and

and those mostly bad in fame and condition, and of little value. There are already there two inlets from the river. At spring-tides, ships of any size might be made to enter through at St. Catharine's and at the Hermitage; and at neap-tides it would be open for the reception of vessels and craft of 100 and 150 tons.*

As the East-India Company has warehouses of their own in different parts of London, and only want cranes and quays to land and to ship, permission might be granted them to build wharfs, within a circuit of walling, subject to the same management and control as at present. As the Company cart away and warehouse their goods at their own premises under the lock of customs and excise, and never pay duties but on delivery of their goods, after their public sales, such a measure would give great relief to the legal quays. The Company took up, in 1792, forty-three ships of above 37,500 tonnage; and, in consequence of the renewal of their charter, are extending their commerce: they have already taken up forty-four ships of 39,527 tonnage for 1793, and more are expected to be engaged.

THERE are *two other plans* for docks, which are in themselves respectable, and are accompanied with many *natural advantages* for the immediate reception of ships, and the discharge of their cargoes, viz. the Isle of Dogs and Rotherhithe; but they are subject to some difficulties on account of distance, risk, expenses and delay of *after-cartage and river-navigation;* and these are independent of powerful opposing interests. Either or both these spots might be made the receptacle for colliers, timber-ships, whalers, and light vessels, &c. The three first might discharge their cargoes with no other expense than dock-duties, without waiting for craft, and without the necessity of warehouses, or at least of expensive ones. —These docks would also give to London a constant and steady supply of coal, and lessen the necessity of *store-craft,* which so frequently impede and interrupt the navigation of the river, both above and below bridge. They would also ease the pool of a perpetual fleet of colliers, and leave the river freer for navigation and mooring. The annual

* These two spots are already made use of as warehouses and sufferance-wharfs, for the reception of a considerable portion of the trade of London. They are nearer to the Tower than some of the legal quays are to the Custom-house and Tower.

importation

importation of coal to London is about 800,000 chaldrons, forming about 3,500 cargoes.

A SUMMARY OF THE GENERAL ADVANTAGES.

THESE docks would treble the present dispatch given at the legal quays, and all the conveniences flowing from thence.

They would be central to the city, to the customs, to the excise; to merchants, tradesman, brokers, and coopers; also to inspection, sale, delivery, and consumption; they would not disturb the present seat of commerce as to residences and employments dependent upon shipping; or the situation of manufactures established near the landing of those merchandizes that are large and bulky; such as rope-walks and sugar-houses, lying on the east side of London, which compose more than one-half of those houses in London.

If the docks were insulated with walls, and under regulations, they would give convenience and security to property; control and convenience to the revenue and its officers, owing to their compactness; and they would at once strike at the root of all those illicit practices which plunder the proprietor and defraud the revenue; and also greatly check those receiving-houses and cellars up and down the river, which form so great a part of our river-plunderage.

They would give room and dispatch for the coasting-traders, and also invite coasters to frequent the London, or north, side of the river; and, as commerce increased, coasters would multiply. The docks would also but little derange the internal intercourse of the traffic of London, Westminster, or Southwark, or the land-carriage into the country. In many cases, the town-cartage would be even nearer than at present, and the increase of it to distant parts, would scarcely, on an average, increase the rate above six-pence or a shilling per load.

They would be near the seat of commerce and business; and, as such, would rather have a tendency to combine leading interests to favour these improvements than to oppose them.

The spots *first-mentioned* for docks are inland and healthy, and free from the fogs and exhalations of the river. They

are

are surrounded by habitations, where fires would add dryness to the atmosphere, and in some measure lessen the humidity accompanying colder and damper situations. Exclusive of health, damp situations also greatly influence the appearance, value, and condition of several species of merchandize, and particularly those that easily dissolve; a loss which cannot be estimated; but which is so great, as to be inconceivable to persons unexperienced in the fact.

From ships and craft moving only with the ebbing and flowing of the tide, one half of the *working-hours* on the river are in a manner lost; and night-tides are frequently useless for this purpose. From the loss of time during day-light, craft, when in the act of transit, are either thrown greatly into the time of the night-tides, or cause delays at night at the quays, as landing of goods can only happen at legal hours. Those who are the best-informed about the river-commerce, know how much dark nights favour dark deeds.

As no lights would be permitted in the docks or surrounding warehouses, fewer fires would happen there than on each side the river; where fires at times have spread at low water, from warehouses to ships, and from ships to warehouses, or to other ships. These losses by fire, upon and along the river, are annually to a very great extent. Insurances of craft, and of merchandizes from the ship to the quay, are also expensive, from the risk being great from accidents and losses.

These docks and warehouses would create a fair competition with the legal quays, destroy combinations, lessen rents and charges, and all those evils consequent to limited situations.

THE NECESSITY OF AN EXTENSION OF THE LEGAL QUAYS AND WAREHOUSES.

THE want of room at the legal quays creates delays and expenses to shipping: lighters are also frequently detained at the quays during a month or six weeks, *before* they are discharged.

Accidents and losses frequently happen to ships, craft, and merchandizes, from these delays; and property is thus lost without recompense to the sufferer, and with detriment to the revenue. In case of losses, contests also frequently arise about the payment of duties.

Merchan-

Merchandize also frequently meets with greater waste and plunder on-board of ships, and in the craft, and until housed, than is occasioned by the whole voyage. It is further subjected to all kinds of weather and damage. Lighters should be made close, as formerly, to guard against weather and plunderage.

Wars increase these impediments, by throwing commerce into fleets, which crowd the river so much, as not only to clash with each other, as to landing and markets, but to occasion additional delays, accidents, and losses.

As seamen and landsmen become impressed, hands grow scarce, ships lose their petty officers, confidence lessens, and wages advance. Cargoes cannot be delivered, but with delay, by a gang of lumpers, at 3*s.* 6*d.* per day; though frequently fed, they always plunder. In peace, the labour of a seaman, or common man, would be 1*s.* 6*d.* and 2*s.* per day.

SEIZURES frequently arise from delays, though the merchandize has been duly entered, and duties in part paid; as the merchandize, for want of room on the quays, cannot be landed within the time limited by law, which for wines is twenty-one days, and for rums, coffee, &c. thirty days; while ships, from the pressure of the times, cannot discharge their cargoes in two months, and many cannot within three months.*

There is a general complaint of the decrease of lighters on the river. The *coal-barges* are now made for that trade alone, and form floating-warehouses; and the barges of the Company of Wharfingers are wearing out, and not to be replaced. Wharfingers are declining lighterage, and lighters are falling into a few hands, and these can at any time, as at present, create a combination. There are but few lighter-builders on the river, and the craft fit for the sugar-trade are very limited.†

Combinations or disagreements § between wharfingers and lightermen, landwaiters and merchants, are equally productive of delays and losses. A late contest in 1791, about post-entries, occasioned 1500 hhds of sugar to blockade the legal quays for a month or six weeks.

* Above five thousand puncheons of rum were in this situation, and liable too seizure, if Government had not granted the indulgence that was necessary.

† From the growing scarcity of timber, it is incumbent to preserve it as much as possible for building ships for our external commerce.

§ Vide Appendix E. page 20.

If

If the legal quays are *inadequate*, their WAREHOUSES connected with them are far more so, as they can accommodate only about 32,000 hhds of sugar at a time; and there are not in London spare ranges of public warehouses adequate to the annual importation of sugar alone, at such a period as this; the annual quantity being from 100 to 120,000 hhds arriving within about three months of the year, and it has been 131,000 hhds. In peace, the evil, though great, is not quite so sensibly felt. In war-time, the West-India trade can more than trebly fill the warehouses at the quays. The first fleet from the Leeward-Islands lately brought 35,000 hhds of sugar, and the one from Jamaica, 40,000. The quays could not house more than 6 or 7,000 hhds of the latter, independent of the arrival of other large fleets from other quarters. In this situation, ships that were damaged, leeky, or chartered, or that wanted to sail out again early, were compelled to serve as warehouses with great expenses and delays.

Warehouses have been so *crowded*, that sugars have been piled six or eight hhds high *on the quays*, subject to loss and plunder; and the wharfingers themselves are annually compelled to send away sugars from the legal quays to places which they hire. It has frequently happened, that carts, laden with sugars, have been detained in the streets for six hours at a time in rainy weather. But a small quantity of sugars are carted away from the quays by the merchants themselves

The Commissioners of the Customs have granted temporary relief exceeding what has ever been remembered; having permitted ships to land sugars at the distance of Blackwall, an indulgence never before allowed, but to within limited distances. Even these indulgencies are inadequate, as many of the sufferance-wharfs are full with the merchandizes of the Baltic and other fleets.

Calculations have been made of the annual losses by plunderage on the West-India produce alone, of above 150,000*l.* per ann. to the proprietor, and of 50,000*l.* per ann. to the revenue for the port of London; and, if other branches of commerce were included, it might be estimated at a total loss of near 250,000*l.* per ann.

Charges, delays, and plunderage, from the above causes, have induced the West-India planters to send their consignments to the out ports; which are now, by docks and dispatch, become in a certain degree the little rivals to the mother-city. There is nothing but the weight of capital,

consumption,

consumption, and vicinity to foreign markets, that secure to London its present large share of the West-India and some other trades. In a general view, this distribution of trade to our out-ports may seem no immediate national loss; but it should be remembered, that the same causes which banish trade from London to our out-ports, may also, and in fact do, banish it, in many instances, to *foreign ports also.*

SUFFERANCE-WHARFS have availed themselves of the necessities of the times, and have in many places charged more than customary at the legal quays. Another burthen on commerce, and without benefit to the revenue, is the charge of *extra*-fees to the officers, for the performance of their *common* duties, at any other than the legal quays: and when permission is granted to ships to land the whole of their cargoes at a sufferance-wharf, extra-fees are demanded from each consignee to take out a *separate sufferance* for his particular goods, and those *pro rata.*

The wharfs and buildings along the river are further inadequate in point of SAFETY to the housing such valuable importations as sugar, hemp, &c. There is scarcely a year, without great losses by fire, and to a very considerable amount. Within these ten years, near, if not above, half a million of property has been lost at the sufferance-wharfs. The losses at Speck's and at Davis's wharfs were great; and, within this month, there has been, at Hoare's wharf, a loss of about 2,000 hhds of sugar, valued at 80,000*l.* exclusive of hemp, &c. at other premises. The proprietors will not only be losers of property, but have to pay freight and duties on importation, without any return.

The *underwriters*, who are one of the most useful supports to our commerce, also require that some attention should be paid to their security, that they should not unnecessarily incur additional risks in port. These considerations alone should weigh against any little advantages and privileges from local considerations.

The operation and effect of all these different embarrassments are heavy, expensive, and fatal; they throw commerce out of its regular seasons and returns, and prove equally detrimental to merchants, markets, and revenue, from unusual delays. Commerce and revenue are now become such complicated machines, that every attention should be paid to the convenience and credit of the one, as well as to the wants and security of the other.

OPPONENTS,

OPPONENTS, CLAIMANTS, AND COMPENSATION.

THE limitation of the legal quays is founded on *exclusive right*, which it is incumbent on the public to purchase at any rate, and to create a fair competition, by laying those, and the proposed docks and quays, open to the public, with equal privileges. It would prove the truest remedy for all our grievances; whereas other plans would only be palliatives, and the same evils would only revive in other forms.

To *purchase* exclusive privileges and rights, may be the *easiest means* to obtain the end, and silence opponents: commerce and revenue are both equally interested in the measure, as they both suffer more, in a short time, by the consequences of this growing evil than would purchase the fee-simple of all these exclusive rights.

Commissioners might be appointed to receive claims: and compensation might be decided, as in the case of canals, by juries or commissioners, to estimate the losses sustained. In the present case, (exclusive of purchases of land and expenses of docks,) compensation would only be limited to a few classes, and be rather requisite for a loss of privilege than of property. The great profit of monopoly having suddenly accumulated, it lies chiefly in the same hands which saw it begin, and therefore furnishes an easier means of compensation, than if it had been transferred to men who had actually paid for the increased value of it.

CUSTOMS AND EXCISE.

WHEN revenues are once created, they are not to be lightly risked for new experiments; but a few considerations may be stated to prove, that an extension of quays would be a gain, without a risk to the revenue.

Dispatch would lessen opportunities and temptations to plunderage, and other species of smuggling, and be productive of great savings and of great gains. Without adverting to the extent of smuggling, the defalcation to the revenue in the port of London only, from plunderage and from accidents to ships and to craft, have been estimated, and perhaps without much exaggeration, from 70 to 100,000*l.* per annum.

The

The change here recommended would be productive also of economy to the revenue. In docks, above half of the hands would be saved in watching, landing, and housing merchandizes subjected to duties, and with greater dispatch; and if we calculate the numbers employed in the river, only in *watching* commodities until landed, and the duties on them ascertained and paid, or until they are housed under the king's lock, the proportion will be still greater. This saving in expense might go, partly to compensation, and partly to the addition of land-waiters.

The plans also, while they extended the legal quays, would condense the commerce of London with more convenience to itself, and to the customs and its officers, than by the present mixed system of legal quays and wide-extended sufferance-wharfs. As to regulations and checks, though the port of London has fewer indulgences, there are less risks and delays to the revenue, than in other places.

Whether there is an extension of docks and quays or not, the increase of *land-waiters* is greatly called for; as the delays at the quays are almost as much increased from the want of them, as from the want of quays and warehouses. The addition of twenty or thirty land-waiters, at the rate of 200*l.* per annum, would be an additional expense of only 4 to 6,000*l.* per annum, a sum that would soon be amply repaid by their services.*

It might be also an object of consideration to land and to bond rums immediately on arrival, as at the out-ports; or to bond them, at the ship's or importer's expense, for thirty days, and to make the bond transferrable. The demand

* There are annually reported in the port of London 10 or 13,000 ships, including coasting-traders. The stations at the legal quays are three:

At the Upper station there are		7	Land-waiters.
Middle station		9	
Lower station		11	
		—	27
At the tobacco-warehouses, statedly		6	
Additional at present		2	
On India goods		8	
At the Wood-Farm in sufferance-wharfs	9		
Additional	2	— 11	— 27
			—
			54
			—

There are some supernumeraries, besides land-waiters for the coasting-trade, who occasionally serve the Wood-Farm, when stationed officers cannot be had.

for the commodity will always overcome any little trifling objection or difficulty that may arise about the convenience of sale. The time for landing is limited to thirty days, and the buyer knows how to avail himself of it when necessity requires the importer to bond. To the public, it is of little moment in whose hands it lies or by whom bonded, since consumers and exporters will always know where to find it.

The abridgment of holidays, and the regulation of hours, would greatly aid these improvements, and would operate with great effect in places insulated like the proposed docks and quays.

At the docks might be stationed officers of business, inspection, and control, with powers of internal management and government, according to circumstances.

CITY OF LONDON.

THE city of London having charters, ancient usages, and privileges, might make a formidable cry and opposition. Its influence is great, and we must feel, with respect, that corporations have constituted the freedom of former times; but, from the alteration of circumstances, a great number of those privileges now operate as restraints, instead of advantages. Let, however, a due regard be paid to charters from the good they have done; but, at the same time, let us remember, that, by *extending our objects*, we may extend those of the city, and give a spur to more enlarged and liberal systems. She may soon be convinced, that she *owes more to the facility and extension of commerce, than to the restrictions of her laws and her customs.* She might still take the lead in the spirit of improvement, and retain the vital principles of her constitution, which were intended for the administration of justice, and the protection and encouragement of trade. Her objections to the proposed plans will perhaps arise more from encroachments on ancient privileges, than from the loss of territory, revenue, or influence. She has however, with a becoming spirit, accomplished great internal improvements, by the creation and widening of streets, at a great expense, and has ultimately found her advantage in those and other improvements. The city of London has only to extend the same spirit towards improvements on the river, and she will again find, that, on the

the extension and security of her commerce, will depend her greatest benefits.

If she has privileges injurious to commerce, she may be induced, in any event, to relinquish them for an adequate consideration. As to her revenues on commercial import and export, they are (excepting on coal, and corn, and wine, which cannot be affected by the proposed improvements) very small, and are to be considered, rather as badges of authority, than as incomes. Where they are an object, they may be secured; and where they are otherwise, they may be relinquished or compensated for. As to places of patronage, they are very few and small.

If improvements have tended to unite London, its suburbs, Westminster, and Southwark, into one great capital, the city of London will still remain unrivalled, and reserve to herself, from situation and capital, the seat of commerce. Westminster must always receive her great line of import through her channels; Southwark need create no fear from the extension of its country and its coasting-trade; and, as to the suburbs, they are the offspring of herself. Her shipping extends for some miles, and both sides the river are dependent upon her commerce, and form the two great ranges of warehouses for the depôt of those bulky commodities which she cannot land and house at her own quays and warehouses. The whole extent of her own territory, bordering on the Thames, below London-bridge, is small and confined, and is almost wholly occupied by the present range of quays, and without capability of an extension of any moment, and such as the times call for. The mercantile interest is a powerful one with government and with the country, both for its commerce and its revenue. Foreigners also heavily complain of the embarrassments of the port of London. Something, therefore, must be done, and there can be little danger in the city uniting with the commercial interests, for the creation of docks near her own doors, when obliged from necessity to deposit the greatest part of her commerce wherever she can find wharfs and quays. She may make a virtue of necessity, and improve her own wants to her own advantages,

LANDLORDS OF THE LEGAL QUAYS.

THEY are few in number, they possess estates of *inheritance*, and command powerful interests. The exclusive privileges of the legal quays have contributed greatly to advance those rents. A compensation adequate to the fall on advanced rents might be made, either for a term of years, by an annuity, or payment by instalments, where shares in the proposed docks are not accepted in preference. There is no moment when they could make the change with so much probability of justice being done to them, as at present.

WHARFINGERS.

These only possess a *leasehold-estate*, and their interests and advantages cease with their leases. From the limitation of legal quays, a competition among the wharfingers to out-bid each other in rents, operates as a combination against the public; since from high rents come high charges, and from confined spots, great delays. This class cannot be hurt, if compensation be made to them for the loss of their privilege, or if they have new leases on other terms. The legal quays, from their convenience, would always command a preference on moderate terms. It is not indeed intended, by any plans, to *compel* commerce to any spot, or to disinherit the legal quays, but only to give the public an option, and also a remedy, in moments of distress.

GANGSMEN.

These are porters stationed under the wharfingers. They are in general freemen, and give security about 100 to 150*l.* for their places. They possess only a *life-estate*, with funds, among themselves, to support those that are superannuated, &c. Their utility is acknowledged, and their situation an employment of confidence. Their numbers may amount to fifty. About five of the wharfs employ men that are not precisely on the same footing as the gangsmen of the legal quays. Their class would not decrease by any new docks.

LABOURERS

LABOURERS ON THE WHARFS.

They are a *fluctuating class of men,* and frequently taken from the soldiers in the Tower. They are employed by the job or time, principally by time: they would follow commerce on an extension of docks, and find proportional employment.

CARMEN, CARTS, &c.

Their employment, in passing from the warehouses to the purchaser of goods, would be the same, and they would be benefited by an increase of distance or extension of commerce. Their numbers are limited to 420. From the very narrow limited situations of Thames-street, and of the legal quays, there are not only great delays, but accidents frequently happen, affecting the lives of men and horses.

LIGHTERMEN.

These would float with commerce, and feel no injury. From the inability of wharfingers to land goods, craft are frequently detained a month or six weeks, or more, without compensation. An extension of quays and warehouses would disperse and liberate their craft, much sooner than at present, and enable them to multiply their little voyages. The extension of commerce, and the life given it by dispatch, would more than recompense the immediate loss from the partial docking of ships. If there was any injury, it might be ascertained by the commissioners. Their numbers are few, and their craft are inadequate. Their apprentices, whose times were nearly out, would favour any improvements of a general nature, in order to introduce themselves into life and business.

COMPENSATION.

COMPENSATION might arise out of various funds; and, as revenue and commerce would be equally benefited, each might apportion a part of its savings and improvements for a limited time. This application would be found, with some little modification, adequate to satisfy the necessary annual instalments due to the sufferers, and the burthen would gradually dissolve with time.

I. The savings to the revenue, by a decrease of needless officers, might be appropriated.

II. The docks and quays might pay some consideration for being legalized as lawful quays.

III. Sufferers might receive certain shares in the new docks in return for their losses.

IV. A compromise might be made with the legal quays and an additional charge for landing and shipping goods for a certain number of years. Though this may operate as an immediate tax, it is better to submit to that than to the tax of plunder, and secure dispatch. Yet future annual savings by docks, from losses and plunderage, would be more than adequate to a small tax of 4 or 5000l. per annum for a limited time. Commerce, by paying fewer charges, &c. in the docks than at present, might well afford to pay a small additional tax to purchase safety, dispatch, &c.

FUNDS FOR MAKING DOCKS, &c.

THE creation of docks and extension of wharfs are not taken into the estimate of a *dead expense*; as the improvements would pay and support themselves after the first outset. Individuals, if a permission were granted under public sanction, would, of themselves, as in case of canals, carry them into execution by private expense, risk, and management. The city of London and other public bodies might be invited to encourage the scheme and possess shares, and also certain powers in the management. Government, as they would be benefited by every extension of commerce, might contribute to the undertaking by a gift or a redeemable loan, having the premises and rents mortgaged as a security, or they might render assistance in various other shapes. The power of framing regulations of the docks, &c. might be vested with Commissioners or Trustees, as in the Ramsgate-harbour trust. Some materials might be found on the spot to lessen expenses, particularly bricks, which should be made of particular dimensions adapted to the works.

GENERAL OBSERVATIONS AND HINTS ON THE EXTENSION OF COMMERCE.

THERE needs but one general reply to all the apprehensions that may arise from the fear of throwing hands and professions out of employment. Prejudices were

were once applied against canals, turnpike-roads, and the use of machines in manufactures; but canals have extended old, and created new markets, without decreasing seamen or the coasting trade; turnpike-roads have given improvements to agriculture, and convenience to markets and to travellers; machines have given extension to manufactures, and we only want *docks, quays, and warehouses,* to give facility to commerce.

Perhaps some may fear the lessening the river-navigation on the Thames, and its importance as a nursery for our seamen, but the same objection might have been applied to the building of the bridges. The extension of commerce is the surest means of creating and encouraging our seamen. While we have commerce and navigation, we shall never want hands. It is from thence that a thousand little springs and rivulets will flow to give employment and fertility to industry. Destroy commerce, and the whole tribe of watermen would soon dwindle again into insignificant river-fishermen. Liverpool has no river-navigation, and yet never wants seamen.

If London and Great Britain could be made the grand depôt of merchandize, and if goods were bonded under the king's lock, until taken out for home-consumption, it would throw the capital of the merchant into his commerce, and leave the revenue to take the benefit of it, at the moment of consumption; for commerce is the parent of revenue. This system is already adopted, without detriment, in the East-India trade for teas, China, silk, sugar, &c. also in the articles rum, tobacco, coffee, &c. If this reasoning be true, the extension of docks, &c. would favour any general system of bonding, and under the best regulations.*

* The Committee of the House of Commons for preventing the illicit practices used in defrauding the revenue, recommended, for the accommodation of trade, at the instance of the Commissioners of the Customs in Scotland, "That all high-duty goods be warehoused at importation, in "warehouses to be provided, to the satisfaction of the proper officers, at "the importer's expense, and under the joint locks of the King and the "proprietor; subject only to the payment of duties for the same, when "taken out of the warehouses for home-consumption; and that, if taken "out for exportation, the same to be delivered free of all duties whatever. "The extension or permission to be granted for three years."—"That, un-"der the present system, much distress frequently arises from the want of "ready money to satisfy the duties at the time of importation, and various "artifices are made use of to obtain drawbacks fraudulently, by which there "can be no doubt that the revenue suffers considerably, probably more than "it gains by the sums retained at present for goods intended to be exported." —Third Report of the Commissioners, 23d March, 1784.

Holland owed much of its prosperity to easy duties. It was a country without national products, and had nothing but this system of becoming a general depôt to create industry and capital. By making that country an universal warehouse for an exchange of commodities, they sold them on terms almost as cheap as they could be procured at the place of their growth.

As to *England*, she is the greatest consumer of her own products and imports; and what she exports of native or foreign commodities is commonly inhanced by the additional industry and labour of its inhabitants. But as we are extending our ideas of commerce in the East, and seem to have in contemplation extensive acquisitions in the West Indies, and as the only two rival commercial nations in Europe are, from political considerations, incapable of great present exertions, it would be good policy to look up to Great Britain as the great depôt for all its wants; building prosperity on the best foundation, that of mutual interests.

Whoever looks at the growing commerce, wealth, and finance, of Great Britain, compared with former times or with other countries, will view with wonder the joint efforts of nature and our industry in spite of all our wars. But when we compare our internal with our external commerce, and see how much they may or do affect each other, there is no knowing how far liberal systems of commerce, with pacific principles, and a relinquishment of prejudices and privileges, (which are rather burthensome than productive, and particularly when they respect ourselves,) will carry us. Roads and canals are forming all over the country, and in all their communications they have one general tendency toward the great centre of the kingdom, there to unite by the strongest ties.

Industry is to property what education is to the mind, for it creates, and it expands. In agriculture, it is befriended by nature; and, in art, it combines and multiplies all the powers of mechanics, particularly when backed by nature. If, then, we grasp at great objects, we must use great means. Archimedes only desired to put his foot on one earth, to raise another: we need only to open our eyes, sacrifice our prejudices, and grasp at the substance instead of the shadow, and we shall then find the surest means of encouraging our industry, and extending our commerce to bounds yet unknown.

APPEN-

APPENDIX.

The following Statements may convey some Ideas of the progressive Increase of the Commerce, Navigation, &c. of England and of London, respectively, at different Periods.

VALUE OF IMPORTS AND EXPORTS.

Imports of England.

Years.		Of which for London.	For the Rest of England.
	£	£	£
1697	3,482,586		
1700	5,970,175	4,785,538	1,184,637
1737	7,073,638	5,335,254	1,738,424
1756	7,961,603	5,333,257	2,628,346
1763	11,665,036	8,146,417	3,518,619
1784	14,119,369	10,314,872	3,804,497
1791	17,688,151	12,016,229	5,671,822
1792	17,897,700	12,071,674	5,826,326

Exports of England.

	£	£	£
1697	3,525,906		
1700	7,302,716	5,387,787	1,914,929
1737	11,842,320	7,362,367	4,479,953
1756	12,517,640	8,347,100	4,170,540
1763	16,160,181	9,389,570	6,770,611
1784	14,804,161	8,260,278	6,543,883
1791	21,435,459	12,944,192	8,491,267
1792	23,674,315	14,742,516	8,831,799

Exports and Imports of Great Britain.

		Imports. £	Exports. £
1791		19,669,782	22,731,995
1792		19,659,358	24,905,200

☞ If Import and Export are added together, the value will be doubled.

Year.				£. s. d.	£. s. d.
1613	The total Amount of the Customs of England.				
	At the Port of London,	Outwards — —	£61,322 16 7		
		Inwards — —	48,250 1 9		
				109,572 18 4	
	At all the Out-Ports,	Outwards — —	£25,471 19 7		
		Inwards — —	13,030 9 9		
				38,502 9 4	
	N.B. Very near three to one in favour of London.				148,075 7 8
1666	The farm of the customs of England, as stated by Davenant, was only per ann. — — — — —			— — —	390,000
1671 to 1688	The customs in England produced, in 17 years, as stated by Davenant, £9,447,797, or, on an average per annum — —			— — —	555,752
1700 – 1714	The net revenue of the customs in England, on an average of 15 years, was, per annum — — — — —			— — —	1,352,764
1709	The gross customs of Great Britain were — — —			2,319,320	
	Deduct drawbacks, charges, &c. — —			965,837	
					1,353,483
1711	The amount of the customs received, as stated by Davenant, in the port of London — — — — —			2,319,320	
	Out-ports — — — — —			346,081	
					1,614,176
1792	The gross amount of the customs for the port of London may be estimated at about — — — — —			3,580,000	
	Deduct drawbacks, charges, &c. — —			1,350,000	
					2,230,000
1792	The gross customs of Great Britain may be estimated at about			— — —	6,040,000
	The net customs of ditto, paid into the exchequer, may be estimated at about,			— — —	3,980,000

Anno. STATE of SHIPPING, &c.

1728	Ships arrived in London from foreign Parts, of which were British — — —			1839
	Foreign — — —			213
				2052
	Coasters — — —			6837
				8886
1732	The number of ships belonging to the Port of London, taken from the register of the Custom-house, were			
	1417 ships from 15 to 750 tons, making			178,557 Tons.
	Navigated by 21,797 men			
	Of these 1 was of — 750 tons.			
	130 were from 300 to 500			
	83 —— 200 300			
	The remainder under — 200			
1742	The number of ships employed at Bristol in foreign Trade, including that to Ireland, were — — — — —			400
	At Liverpool ditto ditto — —			300
	N. B. Both are exclusive of Coasters.			
1753	The number of ships cleared from ENGLAND were —— — British		7957	613,700 Tons.
	Foreign		355	41,254
			8312	654,954
	Of which for LONDON were British		1216	153,969 Tons.
	Foreign		150	26,281
			1369	180,250
1792	The number of ships cleared out from the Port of London for foreign Parts were			
	British about			1700
	Foreign			500
				2200
	Of about (and exclusive of Coasters)			399,000 tons.
1792	The number of ships belonging to the port of London were about — —			1860
	Tonnage —			374,000 tons.
	Of these about 24 were from 500 to 750 tons.			
	260 —— 300 500			
	360 —— 200 300			

STATE

D.

STATE OF THE WEST-INDIA TRADE.

Periods.	On an average of years.	Sugar.	Imported into England.
1700 to 1715	15	34,832	Hhds of sugar *per annum*.
1715 — 1730	15	60,450	
1731 — 1742	12	68,128	
1743 — 1757	15	76,366	
1764 — 1773	10	122,302	Acquisition of islands.
1774 & 1775	2	155,800	
1776 to 1783	8	111,769	Years of war, hurricanes, and loss of islands.
1784 — 1790	7	145,969	Peace, and restoration of Islands.
1791	1	138,963	
1792	1	153,018	

WEST-INDIA SHIPPING, &c.

	Ships.	Tons.
1792 To England, about	550	130,000
Scotland, —	85	15,500
	635	145,500

1792 Imported in about

	Ships.	Hhds of Sugar.	Pun. of Rum.
To England,	550	153,018	27,500
London,	285	105,114	15,707
Out-Ports,	265	47,804	11,793

COMBI-

COMBINATION OF WHARFINGERS IN 1674.

Extracts of a Petition of the Merchants and Traders in London, to the House of Commons, in 1674.

" Sheweth,

" That, by the acts and rates made in the reign of King Charles II. as appears in the book of rates, all goods imported from parts beyond seas to the port of London must be landed at those keys and wharfs only that lye betwixt Tower-Dock and London-Bridge: And that all goods landed in any other place, without particular licence from the commissioners of the customs, are forfeited; which wharfs and keys were formerly managed by separate wharfingers."

They complained that the wharfingers " had entered into a combination and partnership to make them all one joint concern, which, if continued, the burdens and losses trade will be subject to by this copartnership will be intolerable, because

" 1st. The ships are now twice as long in delivering as they were before this copartnership, by their not employing that number of lighters and lightermen that are necessary, but making the merchants wait, that one lighter may do the business of three, which is a great charge to shipping as well as a hindrance to our navigation and trade.

" 2d. That the said copartners have also advanced the rates of their wharfage and rents of their warehouses upon the said wharfs, and they may further advance them to what rates they please.

" 3d. That when, by the carelessness of the servants or want of due attendance, the lighters are sunk and the goods perished, or that the goods are stolen out of their lighters or warehouses," —that they did not know whom to sue, as the copartners were not a corporate body, and that they refused to discover themselves.

What was the result of this business does not fully appear, than that this petition was referred to the Privy-Council; and from thence to the lord-mayor and aldermen of London. The merchants delivered in the table of rates they had been accustomed to, and which they were willing to give. The wharfingers also delivered in their proposed tables of rates, which was, on an average, very near an advance of three to one on the old rates, and in many cases it was more. The plea for the increase was the great loss by the *fire of London*, in 1666, and the rebuilding of warehouses at a great expense and more convenient than ever. Near 130 years have since elapsed, and there is now the plea of *heavy rents and expenses* for an increase of charges. If there were combinations and disagreements in 1674, what must be the evil of 1793?

If it were of moment, other periods of complaint might be stated, and particularly in the Earl of Bute's administration, about the year 1763; when the idea of the extension of the legal quays was warmly espoused and taken up by his lordship; but the then *landed interests of the wharfs, &c. overcame the interests of commerce.*

THE

THE PROGRESSIVE INCREASE

OF

DOCK-DUTIES,

AT LIVERPOOL,

From the Year 1752, ending the 24th of June each Year.

Year	No. Ships.	£.	s.	d.	Year	No. Ships.	£.	s.	d.
1752		1776	8	2	1773	2214	4725	1	11
1753		2034	16	2	1774	2258	4580	5	5
1754		2095	11	0	1775	2291	5384	4	9
1755		2417	13	11	1776	2216	5064	10	10
1756		2187	16	9	1777	2361	4610	4	9
1757	1371	2336	15	0	1778	2292	4649	7	7
1758	1453	2403	6	3	1779	2374	4957	17	10
1759	1281	2372	12	2	1780	2261	3528	7	9
1760	1245	2330	6	7	1781	2512	3915	4	11
1761	1319	2382	0	2	1782	2496	4249	6	3
1762	1307	2526	19	6	1783	2816	4840	8	3
1763	1752	3141	1	5	1784	3098	6597	11	1
1764	1625	2780	3	4	1785	3429	8411	5	3
1765	1930	3455	8	4	1786	3228	7508	0	1
1766	1908	3653	19	2	1787	3567	9199	18	8
1767	1704	3615	9	2	1788	3677	9206	13	10
1768	1808	3566	14	9	1789	3619	8901	10	10
1769	2054	4004	5	0	1790	4223	1,0037	6	2½
1770	2073	4142	17	2	1791	4045	1,1645	6	6
1771	2087	4203	19	10	1792	4483	1,3243	17	8½
1772	2259	4552	5	4	1793	4129	1,2480	5	5

THE END.

A

LETTER

TO A

FRIEND

ON

Commerce and Free Ports,

AND

LONDON-DOCKS.

LONDON:

PRINTED IN THE YEAR 1796.

INTRODUCTION.

THE following is a Copy of a Letter, written to a friend at his request, and intended only for his private information.

It contains a hasty sketch of the heads of a conversation, on two or three questions interesting to commerce, port-accommodations, and the principles of a free trade. It was written under every disadvantage, on the pressure of a particular moment, that would neither admit of delay or correction.

The Letter was never intended for publication, and nothing but the peculiar circumstances of the present moment could have apologized for the circulating

culating a few copies into private hands. No liberties have been taken with the Letter; and it is hoped, that the same may be received under the impression and circumstances with which it was at first written, and as intended to convey general hints and out-lines in favour of plans, at present under public discussion, that may tend to public utility.

London,
March 26, 1796.

A LETTER

TO A FRIEND

On Commerce and Free Ports, and LONDON-DOCKS:

London, Aug. 16, 1795.

DEAR SIR,

THE following detached hints I have drawn up at your request, hastily, in consequence of a conversation on the evils of the port of London, and on the general interests of commerce and revenue; and how far the interests of both were connected with, and would be supported by, the formation of Wet Docks for the port of London, if connected with a bonding system or a plan of Free Ports. Time, and the objects in view being pressing and requiring dispatch, would not permit more than conveying the hasty outlines of general hints.

STATE OF ACCOMMODATIONS FOR THE PORT OF LONDON.

The Legal Quays

are limited in extent, inadequate to wants, and incapable of extension.

The same as at the rebuilding of London in 1666, extending only from the Tower to London-Bridge, and only 1464 feet long.

Sufferance-Wharfs

are dispersed, inadequate in extent, situations, and convenience, insecure from fire, weather, and plunder. A conversion of them into Legal Quays no extension, but only constituting a sufferance into a right.

The River

inadequate to the shipping that frequent it:

about 9,900 coasters.

3,500 vessels from foreign parts.

13,400 vessels arrive annually in the port of London.

The

The general Moorings for ships lie between London-Bridge and Limehouse; some few at Deptford, some few at Blackwall. — Moorings may be divided into three stations;

Upper, for smaller ships.
Middle, for larger ships.
Lower, for large ships.

Not more than 800 sail of ships can lay at Moorings afloat at low water.

Navigation is frequently impeded.

Accidents, Losses, and Delays, are frequent, and annually to a great extent. They are as fatal to commerce as they are to revenue.

Shipping, Commerce, Revenue, have greatly increased, for the port of London, within this century, and bears a considerable proportion to that of the whole kingdom, while London possesses the worst accommodations of any trading-port. To you it would be needless to state the tables of their respective proportions and increase.

Docks are necessary for the accommodation and reception of shipping; and are so projected as to permit ships to unload in them, either on the dock-quays, or into lighters, if cargoes are wished to be landed at the present Legal Quays or at other wharfs.

A Lighter-Dock is attached to the Wet Dock, for the admission and accommodation of a number of lighters to go in or out every tide.

Ships in Dock will discharge with more facility and dispatch than in the river, and the risk and distance of lighter-navigation to the present Legal Quays much less than the present lighter-navigation in the river to the Legal Quays.

HINTS ON COMMERCE, REVENUE, AND FREE TRADE.

Under these general outlines I shall confine myself to those great leading points which I conceive are immediately interesting to government.

I. The encouragement and extension of commerce.

II. The security and increase of revenue.

Commerce is the parent of revenue, and whatever tends to give encouragement and dispatch to the one, will give security and increase to the other.

Regulations for the security and collection of revenue will easily suggest and accommodate themselves to commerce, in all its various shapes; and they might be so modified as to give freedom to import and export, without deranging the ope-

rations of commerce, the security of revenue, or the convenience of the state. Two plans present themselves :

I. The making of England a great depôt for commerce, by a general bonding system.

II. The making it a general Free Port.

A general bonding system to transfer the payment of duties from the time of import to that of consumption would little change the present state of things, respecting commerce and revenue, beyond the momentary delay of a few months in the first year, during the change or operation of old systems for new. Exchequer-bills, or a vote of credit, would unite the two plans, and link together the great chains or relationship of revenue to commerce. Succeeding years would regulate themselves.

To revenue it would give greater ease, convenience, and security, than in its present insecure and expensive system, which is so much open to peculation,

lation, evasion, and plunder, though under the eyes of a legion of inspectors and watchmen. The security would be good, by the possession of the commodity itself, and the bond of the importer. The experiment has been tried in the East-India trade, which forms one of our great commercial pillars, and also in rums and in tobacco, without loss, detriment, or inconvenience, to revenue.

To the merchant, it would give command of capital and increase of faculties; and, in proportion as he threw them into his commercial concerns, his industry and enterprize would tend to give a spur to the seeking and creating new markets, and the giving increase to public revenue.

In the present state of things, revenue calls for a large portion of the capital of the merchant, by anticipating the payment of duties at the moment of importation, where they are frequently locked up for months, until goods are landed and markets of consumption or exportation are found for reimbursement. On exportation, delays farther arise from the recovery of drawbacks, independent of

frequent losses of duty when paid on importation, occasioned by accidents and fire. In many cases, duties have been imposed where ships have been lost before goods could have been landed. A system founded on bad policy, as revenue implies a toll on a commodity, to be returned in the price of that commodity on its consumption.

The revenues of England, which are above sixteen millions a year, are partly internal and partly commercial. The revenue from customs forms about six millions a year; of which, about four millions (or a fourth part of our annual income) is the neat sum paid into the Exchequer. Drawbacks and expenses form the other two. The delays, expenses, and temptations, occasioned by a system of heavy duties, drawbacks, and bounties, are great and many; and, perhaps, greater than would attend a more simple and less complicated system of forming England as a great commercial depôt, and of laying a small regulating duty on import, as a kind of register of commerce, and another small duty on exportation.

At present, government borrows of the merchant, annually, a capital of six millions, by anticipation, until consumption or exportation takes place; and the drawbacks on the latter are recovered with great delays and heavy charges. It may admit of a question, whether this momentary anticipation of duties and delays on drawbacks are not more injurious to the interests of commerce and the welfare of the state than any benefit to the revenue, by the temporary command of capital? I conceive it better for government to make occasional temporary loans, at an interest on the security of the revenue, than to continue the present system. The merchant must and will apportion his returns and gains, not on the cost of the commodity only, but on the advance and delays he meets with in the deposit and return of his duties; and, instead of meeting a home-consumption or a competition in foreign markets, on the lowest rates and fewest charges, he circulates his commerce under the dearest rates; creating, at the same time, the heaviest drawbacks upon natural industry and national advantages. We hamper

per commerce for the sake of revenue, instead of encouraging the one to promote the other.

To the natural expense of collecting and watching the revenue on commerce, must be added a great additional one of an armed fleet of cutters or vessels, to enforce and protect the revenue-laws.

With all the guards to revenue, and caution in its laws, a very extensive commerce is carried on through the crevices or defects of those laws; and we discover how much is done to evade, lessen, or postpone, the payment of duties. Guernsey forms a great depôt of commerce for England, both to the fair trader and to the smuggler; and, in peace, Dunkirk and Ostend form those great depôts to avoid or postpone the payment of duties. Merchandizes are housed without duties by the fair trader, until the moment of consumption, or until convenience suits a regular import and payment of duties into England. To the illicit trader, they are perpetual magazines or store-houses, and within a few hours sail of an extensive sea-coast in the channel.

An illicit commerce is carried on to England to an immense extent. The reduction of the duties on tea gave the strongest proof of the magnitude of its consumption, and the extent of its trade, in its legal and illegal form; the former being now increased from six to twenty millions of pounds. High duties have and ever will occasion similar examples, and occasion indirect, instead of direct, channels of trade. The temptations and evasions are too strong to be suppressed by penalties and risks of seizure. The revenue is defrauded, and high duties form, as it were, part of the capital of the illicit trader; and his gains, deducting all his risks and losses, always interfere with the fair trader and with the revenue. Smuggling commands an immense active floating capital, and is so extensive, and reduced to such a regular system, as to be currently insured, at a regular premium, by a saving in the duties.

The best security against illicit trade is a general reduction of duties on a bonding system, and to impose duties instead of prohibitions on many articles of commerce, that can now only be imported for exportation,

exportation, and are only exported to be smuggled back again without the duty. It would secure and increase revenue, lessen the expenses of guarding and watching it, and all that system of connivance, which is frequently too strong and too alluring to resist in the very officers, whose duty it is to protect and to detect.

It may admit of some consolation, that this illicit commerce, if it did not infringe on revenue-laws, would be, and often proves, in many other respects, beneficial to the general interests of the country, at the time it was lucrative to the undertakers.

In wars, the effects of a free trade are strongly marked by the increase of a legalized trade in neutral bottoms, who become the great carriers in a regular line of commerce, with all the duties that are imposed upon it in time of peace, from the security of their navigation, and at a less expense. States are frequently obliged in war to relax in their systems, and to encourage or receive their stores, supplies, and commerce, in neutral bottoms. Holland, Ostend, and Hamburg, are also strong examples

amples how far a free trade or a neutral port, in times of war, have and will encourage and protect commerce, and how much nations give to foreigners what might have been secured to themselves in peace or by other systems.

In the present state of things, England approaches nearer to a free trade than most are aware of. Duties and restrictions imposed for revenue, encouragement to navigation and manufactures, or to counterpoise the natural advantages or restrictions of other states, have only created similar returns. The clogs have been mutual, and the weights in each scale nearly equipoised, while the whole system of high duties, drawbacks, and bounties, have tended only to create intricacy, expense, and evasions. The competition or rivalship, arising from the advantages of industry, climate, products, and an exchange of wants, continue the same, and break through all the impediments which restrictions, taxes, and wars, impose upon commerce.

It is, I conceive, a mistaken idea to make commerce wholly subservient to revenue and regulations. It checks industry and the operations of trade. Commerce is little else than the mutual exchange arising from climate, products, and a circulation of wants, increased by the calls of industry and the progressive improvements of society. Industry is the great spring to wealth and to property: to man it is as bountiful as nature is to vegetation, and possesses within itself the means of creating and supplying wants. Commerce is only the medium of circulation, or a large field open to the faculties and advantages of every state, and where every nation, by a mutual exchange of wants and of products, might become great gainers without a loss, and promote, by those exchanges, the prosperity and welfare of each other. Commerce needs not the aid of monopolies, wants, or regulations, to support it; industry, freedom, and peace, are its best supporters.

Whoever has watched the operations of commerce will find that it has prospered in proportion

as

as the principles of free trade have been adopted, and those states have generally thriven the most that have encouraged shipping, which has, in its turn, given birth to industry, wealth, commerce, and revenue. With these principles, states have possessed means or powers of import, export, or consumption.

Holland, a country small in extent, frugal in its manners, almost without natural products, and preserved from inundations by art, at a great annual expense, commanded an extensive line of commerce, until convulsed by political considerations. Its trade was free, and the courses of exchange, its usual attendant, have been extensive and beneficial. Its duties on import were small, and also small on export, and, from governing itself by natural or occasional wants, or advantages of markets and exchanges, with other countries, it became the great carrier, importer, and exporter, for them.

England has products, faculties, and advantages, natural and acquired, which few nations possess. She has little to fear on any change or revolution in

in the commercial system of Europe. If monopolies have been adopted by European states as the best means of making and securing natural or cultivated advantages, England has held the balance in the scale of commerce; and, in proportion as the restraints and fetters upon commerce are removed, she will retain and extend those advantages.

Great as the trade and revenue of England are, compared with former times and other countries, they might be greatly extended and improved by giving encouragement to industry on pacific plans and of more liberal commercial systems. Industry, want, and consumption, have gained such an ascendency in Europe, that, independent of its convulsed political state and its exhausted resources as to war, it will be alive to all the calls of industry on a peace, and the checks that have been given to cultivation and consumption will give the most powerful calls for supplies in a more tranquil state.

The principles of commerce have changed and are changing. They have, within this century, both undergone and created great revolutions in the state of Europe, and will undergo a still farther change; and it is more than probable that the navigation of the Scheld and the Meuse will be the result of the war. It becomes an object of policy and of consideration how far England will seize the moment to open its doors and avenues to a free trade, as a counterpoise, either on a general or a partial scale of a free trade. London, from its capital, situation, and consumption, as well as vicinity to foreign markets, will always command the means of great depôts; but there may be cases where Free Ports in the channel, to touch at, or to land and load for foreign markets, might be made with advantage, from dispatch in time, economy in charges, and be more within the command of winds.

France and the other European powers, from necessity and rivalship, will open their doors to trade and supplies under fewer restrictions than formerly, and will encourage shipping, commerce, agricul-

ture, and industry, as the sources of wealth and of revenue. Our present commercial systems will undergo a revolutionary change, not so destructive or convulsive as political revolutions, but such as will tend ultimately to encourage industry, and the circulation and supply of national wants; and that state is the wisest that the soonest prepares to meet the growing changes in commercial systems, by *giving*, instead of *following* examples. Monopolies were formerly privileges in favour of industry; they are now burthensome to the state, and their jarring interests are the greatest bars to national improvements. I am aware that the principles of a free trade will agitate a number of questions, which are strongly rivetted by habits and prejudices, independent of private interests; but apprehensions are sometimes stronger than evils, and those very objects that were once the sources of alarm and of jealousy have often proved, and been resorted to at last, as the best friends to private industry and public advantage. Machineries, &c. have rather created, in manufactories, a want of hands, than thrown them out of employment.

From

From the state of Europe, England might become the great importer and manufacturer. Its Free Ports would form the magazine, and the world become its customer. The port of London might become one of the great depôts of commerce for internal and external purposes, and Wet Docks form the great key-stone, and give

To Shipping, safety, dispatch, and economy:
To Commerce, convenience, security, and dispatch:
To Revenue, protection, security, and increase.

Government would be benefited by the formation of Wet Docks for the port of London, as ships would discharge in nearly one-third of the time they do at present. Cargoes should be landed as soon as possible after arrival. Whatever gives dispatch gives security, and prevents evils; and no agent on such a plan would be so powerful as a greater increase of landing officers for the facility of commerce and the increase of revenue.

To revenue it would give increase and economy, as well as dispatch and security in its collection:

More inspection and more control:

More command and control over officers:

More convenience to the officers themselves:

Fewer temptations and opportunities to smuggling and plunder:

Occasion fewer losses, fires, and accidents, so detrimental to property, to commerce, and to revenue:

Be a saving in salaries: and

Lessen the necessity of a legion of subordinate officers, appointed to watch the ships and goods on-board, or in the transit of goods in lighters until they are landed and duties are ascertained.

About 1600 men are employed in the Customs for the port of London, and the major part of them are employed on river-duty as watchmen. On-board of East-Indiamen, about thirty officers are appointed; and on-board West-Indiamen, five or six, who are *generally* fed and maintained at the expense of the ship. Other ships are in proportion. Subordinate officers are often one of the greatest causes of peculation and plunder.

The

The evils of the port are great and many, and merchants and revenue-boards have their time taken up, not in the operations of commerce, but in the petty details of petitions and references occasioned by the evils and delays of the port.

Docks would little derange revenue in its operations; commerce not seeking a new port, but accommodation in an old one. They would also condense the seat of commerce and of revenue, by the dispatch they would create at the very moment means were acquired for their extension.

Docks are become necessary as a common port-accommodation, to give security to shipping, commerce, and revenue, and to give freedom to the navigation of the river. If a bonding system was adopted, they would be requisite; but, if connected with the greater system of a free trade, and to form part of a great whole, they would be indispensably necessary to favour the extension of that object.

Docks would also form one of the great links in the chain of commerce, and unite more closely our internal with our external trade.

Canals and roads form the great arteries of internal commerce.

They are approximating to London;

They will aid agriculture and cultivation;

Give birth to industry;

Give facility to old, and extension to new markets.

Docks would increase the trade of England and of London; and there would be no danger of the rivalship of London with the out-ports.

Whatever invigorates commerce will extend to both, and create new calls to industry. Wants would create wants and give the means of supplies.

I have said little about the *locality* of Docks.—Wapping has its accommodations from its vicinity to the city, the custom-house, and the seat of commerce;

merce; and of giving to POSTERITY convenience, economy, and dispatch. I have also stated little about the necessity or advantages of them. Evils and benefits must speak for themselves. Private interests have natural claims to attention; the interests of commerce and of revenue have also similar claims. The injuries they annually sustain from accidents, losses, and delays, are great and many, and more than would, in two or three years, purchase the fee-simple of most of the private interests that would be affected by the formation of Docks.

Private interests are few; some of them are permanent and freehold; others are local, for lease, life, or temporary services. The city would have its rights or its tolls little affected. The quays and warehouses on each side the river are out of its limits or jurisdiction, and form the great depôt for that commerce, which she cannot ship, land, or house, within her own boundaries. London commands three-fifths of the commerce of England; and its legal quays cannot accommodate one-fourth of its trade. It is better, therefore, I conceive, for

commerce

commerce and for revenue to satisfy private interests, than to suffer annually great permanent injuries.

I am, with great regard,

Dear Sir,

Your sincere and obedient

humble servant,

* * * *.

THE END.

EXAMINATION

OF

WILLIAM VAUGHAN, Esq.

IN A COMMITTEE OF THE

Hon. Houſe of Commons,

APRIL 22, 1796,

ON THE

Commerce of the Port of London, and the Accommodations for Shipping, &c.

LONDON:

1796.

EXAMINATION, &c.

"AT a Committee of the Houſe of Commons,
" appointed to inquire into the beſt mode
" of providing ſufficient accommodation for the in-
" creaſed Trade and Shipping of the Port of Lon-
" don; who were empowered to report the evi-
" dence, as it ſhould appear to them, together with
" their obſervations thereupon, from time to time,
" to the Houſe; and to whom the ſeveral petitions,
" which have been preſented to this Houſe againſt
" the Bill for making Wet Docks, Baſons, Cuts,
" and other Works, for the greater accommodation
" and ſecurity of Shipping, Commerce, and Reve-
" nue, within the Port of London, and for making
" a navigable Canal from Blackwall to the ſaid Docks
" in Wapping, and alſo the ſeveral petitions which
" have been preſented in favour of the ſaid Bill,
" were ſeverally referred."

THE FOLLOWING

EXAMINATION

TOOK PLACE

VENERIS 22 DIE APRILIS, 1796.

Mr. WILLIAM VAUGHAN, a Merchant, called in and examined.

Q. *CAN you give a general idea of the ſtate and extent of the Commerce of the Port of London, the Nature and Diſtribution of the ſame, the Inconveniencies of the Port, and what, in your Opinion, are the means of Relief?*

Without entering into details, I beg to ſtate, that the Colliers and Coaſting-Traders form the greateſt proportion of the ſhipping and tonnage of the Port of London; and that the evils of the River have ariſen more from this cauſe than from the extent of the ſhipping and tonnage employed in our foreign trade.

COLLIERS.

The Colliers, by their repeated voyages, exceed in number of ſhips and tonnage thoſe employed in the foreign trade. The importation of coals, on an average of ſeven years preceding 1732, was 474,717 chaldrons: it now amounts to about 900,000

900,000 chaldrons per annum, and will probably increaſe and call for more room. The value of their cargoes amount to about £1,800,000. In 1795, 4,395 ſail arrived in London.

COASTING-TRADE.

The Coaſting-Trade may be eſtimated, including repeated voyages, at about 7,500 ſail. It is double the number employed in the foreign trade, but does not equal it as to tonnage. In proportion as London has increaſed in its import and export trade, the coaſting-trade has kept pace with it. London forms, as it were, the great focus for foreign trade, from its capital and its relation to foreign markets, and circulates its commerce to all parts of England by means of its coaſting-traders; the country making its returns in corn, coal, ſalt proviſions, fiſh, ſtone, and manufactures, which latter ariſe partly from native and partly from foreign products.

FOREIGN TRADE.

The foreign Trade, though great in extent, is limited in its ſhipping and tonnage, and ſtill more ſo as to thoſe branches of commerce that are the moſt valuable in amount and the moſt productive as to revenue. The number of Ships to the Port of London in 1793 were 3,541 Ships; 655,124 Tons;

Value of Export, £12,660,463;

Import, £12,224,745;

as taken from public documents. I ſtate the year 1793 for the foreign trade, becauſe it was leſs affected by war and by the times, than ſubſequent ones, though the value of imports and of exports have greatly increaſed from various cauſes. Many ſhips are laden with bulky commodities and of little value, ſuch as timber, pitch, tar, &c. which are conſumed by the very ſhipping that floats our commerce. Others, though numerous, are ſmall, make frequent voyages, and are delivered with more diſpatch, ſuch as corn, &c. The duties on both theſe claſſes are ſmall, eaſy in the expenſe of watching and of collection, and the riſk of ſmuggling not great.

The moſt important branches of our foreign commerce are limited to the trades of few countries; ſuch as, for Eaſt and Weſt India products, tobacco, wine, ſilk, and parts of the Baltic and American trades; and, though the number of other ſhips and cargoes are comparatively few, yet they are more valuable in themſelves and more beneficial to the revenue, and employ more officers in watching and collecting the ſame than any other branches of commerce.

It is on theſe valuable lines of commerce that the evils preſs the moſt, where the delays are the greateſt and the temptations are the ſtrongeſt, and where the great line of ſmuggling and plunder, as well as expenſe to the merchant and to the revenue, will attach themſelves. High duties and valuable cargoes

goes both form great temptations to illicit practices, and will increaſe while the great evils of the Port exiſt, and until accommodations are made adequate to preſent calls and capable of future extenſions.

LANDING OF CARGOES AND CRAFT IN THE RIVER.

Coaſters generally load and diſcharge at Sufferance-Wharfs; ſome few of them at the Legal Quays. They uſually diſcharge at wharfs under cranes, or by hand, and ſeldom need the aid of craft. They are generally left on the banks of the River, which become dry at the ebb of the tide.

COLLIERS AND TIMBER-SHIPS.

Colliers and Timber-Ships employ about ſix-ſevenths of the craft on the River, to diſcharge their ſeveral cargoes to the different timber-yards and coal-wharfs along the banks of the River for many miles, and which ſupply a great extent of country on each ſide of the River. No docks can ſuperſede the *neceſſity of craft* to theſe trades, which muſt neceſſarily float up and down every tide, independent of timber-rafts. The banks of the river are lined with timber and coal-barges: the latter are converted into floating ſtore-craft, in order to ſave the expenſe of wharfage and of landing, until the moment of delivery. The craft, employed in the foreign trade, are limited and inadequate; ſhips have been fre-

quently detained for want of them. They lie in few hands, who have created combinations againſt wharfingers and merchants. The number of ſugar-craft may be eſtimated at ſomewhere about 100.

The Import of Sugar and Rum to London in

1756 was, in 203 Ships,	59,978 Hhds,	5,066 Puncheons.
1793 - - - 304 - - -	120,952 - - -	21,818 - - - - -
1794 - - - 433 - - -	140,138 - - -	17,703 - - - - -

CAPACITY AND NAVIGATION OF THE RIVER.

Capacity and Navigation of the River. — It is difficult to form an eſtimate of the number of ſhips that can, or do lie in the River at one time, as it depends greatly upon peace, war, ſeaſons, and the nature of particular trades; but I conceive they ſeldom exceed from 1,100 to 1,400 ſail at a time, including Colliers and Coaſters. The River is about 900 to 1,200 feet broad at high water; at which time, all ſhips lie afloat; but, at low water, it loſes from about 400 to 440 feet in width, or above one-third of its breadth, and leaves the greateſt part of the coaſting-trade, and a number of veſſels in other trades, dry on the banks of the river. From a ſeries of actual ſurveys and inquiries that I have made within theſe three years, I eſtimate not ſo many as 500 ſail of ſhips can lie afloat at low water at mooring tiers and chains in and from the Pool to the Tower; and that of the Colliers and large

large Veſſels from foreign parts, which occupy the deep water at low-water-mark, many of them ground at the ebb-tide. At times there have been near 300 ſail of Colliers at one period in the Pool, and frequently 150 to 200 and 250 ſail.

From the Tower to London-Bridge few veſſels lie except ſmall coaſting-traders, from the ſhallowneſs of the River and the rapidity of the tides below the Bridge, occaſioned from a two-fold cauſe, operating at nearly the ſame ſpot; one, the ſpace occupied by the ſtarlings, which reduce the width of the River from about 840 to about 460 feet, thereby occaſioning a great fall of water, a velocity of tide, and a ſhallowneſs below Bridge: the ſecond is the projection of the Legal Quays, and which will, in caſe of a farther projection, operate more ſtrongly than in a proportionate degree.

The mooring-chains at Limehouſe-Hole are appropriated principally to timber-ſhips, and can accommodate about 32 ſail at a time, though about 50 have laid there; and thoſe at Deptford are in about the ſame proportion, and where large ſhips lie and diſcharge that cannot come up, or decline it from the crowded ſtate of the River.

The navigation round the Iſle of Dogs is intricate, and the danger of the Pool proceeds from the crowded ſtate of the River. The latter has been frequently in ſuch a ſtate as to render it impaſſable for craft and boats.

From

From the ſurveys and ſoundings that have been made, and the inequalities of the River, I rather queſtion if it would be practicable to excavate the bed of it ſo as to accommodate the trade of the Port on an ebb-tide.

AVERAGE-TONNAGE, AND SHIPPING.

Average-Tonnage, and Shipping. — Ships have increaſed in number and tonnage, but they vary ſo much according to trades, and differ ſo much as to ſize in thoſe trades, that averages frequently prove uncertain guides, and the mooring of ſhips in the River according to their trades would not, from theſe cauſes, I conceive, always anſwer the objects of relief.

The following is a comparative ſtatement of the ſhipping belonging to the Port of London in 1732 and 1792:

	1732	1792	Decreaſed.	Increaſed.
Of and under 200 Tons	1212	1109	103	—
300	83	368	—	285
400	74	236	—	162
500	46	30	16	—
600	—	15	—	15
700	—	7	—	7
1300	2	95	—	93
	1417	1860	119	562
		1417		119
		443		443

By

By which it will appear that the great bulk of veſſels are, of and under 200 tons. That veſſels under that tonnage have decreaſed 103 ſail in 60 years, and have increaſed, above that tonnage, 546 ſail, and that, excluſive of Indiamen, few ſhips belonging to the Port exceed 400 to 450 tons.

DISTRIBUTION OF THE TRADE OF THE PORT, AND ITS ACCOMMODATIONS FOR LANDING, SHIPPING, AND HOUSING OF MERCHANDISE.

In order to form ſome idea of Port-accommodations, I have prepared, as a general outline, a ſketch of the general imports and exports, ſtating the trades or ſpecies of goods that are uſually attached to the Legal Quays or Sufferance-Wharfs, and what are uſually houſed, carted away, or bonded from the former.

[The witneſs delivered in the ſaid ſketch, which was read and is annexed in the Appendix.]

I ſhall only obſerve, in general, that the Legal Quays are limited in extent, and do not command one-fourth of the trade of the Port as to landing and ſhipping of goods. They poſſeſs limited means of capacity, but will always command a preference under any ſyſtem both for landing and houſing at the Quays, or for carting to thoſe vaults and warehouſes which abound in many parts of the city.

The

The Sufferance-Wharfs are diſperſed and diſtant, and occupy the bulk of the coaſting-trade and ſuch portions of foreign trade as the Legal Quays cannot accommodate, and which, at preſent, compoſe a large portion of that trade, which is bulky and not high-dutied.

THE EVILS OF THE PORT.

The Evils of the Port are, the want of room in the River for ſhips, the delays of delivery, and the limited means of ſhipping and of landing. Theſe are the great cauſes of all the ſmuggling and plunder in the River, which no regulations can effectually check, while delays are ſo great and temptations ſo ſtrong. The extent of theſe evils are unknown, and are not eaſily checked, detected, or controlled. Some of the many cauſes are, the mode and manner of ſhips diſcharging their cargoes, the delays in unloading, and the great facility of illicit practices by boats hovering about ſhips night and day while diſcharging their cargoes, and the number of receiving-houſes on both ſides the River, excluſive of a *ſecond delay*, expenſe, and riſk in lighters within the Port until goods are landed.

THE NATURE AND EXTENT OF THE RELIEF.

The Nature and Extent of the Relief. — The greateſt ſecurity againſt accidents, plunder, and ſmuggling, will be diſpatch in landing a ſhip's cargo

go immediately on her arrival, with as few intermediate *trans-ſhipments* as poſſible. Nothing ſhort of Wet Docks will give accommodation and ſecurity, and leſſen the riſk and expenſes to the merchant, and give increaſe and ſecurity to revenue, than by the taking out of the River the moſt valuable ſhips and cargoes that employ the moſt hands to inſpect and to watch, and to leave the River free to thoſe trades that are the moſt bulky and leaſt valuable as to property and to revenue, and require the feweſt officers, and that are accompanied with the feweſt riſks and temptations, independent of their employing the greateſt number of craft and lightermen, that muſt neceſſarily, from the nature and deſtination of their cargoes, occupy the ſtream and banks of the River.

A general or partial removal of trades is a queſtion of great magnitude, and requires a nice diſcrimination and an accurate knowledge of the trade of the Port, under all its various branches, the times of their arrival and departure, and a general knowledge of the nature and diſtribution of their cargoes, either for depôts, conſumption, or manufacture, independent of the relations of peace and war, and an extenſion or any change of ſyſtem in our commerce.

I conceive that the great bulk of our colliers and coaſters, from convenience, economy, and a combination of circumſtances, muſt be left to themſelves

and

and the banks and the bed of the river, as muſt alſo a large portion of our foreign trade; and that ſhips frequenting the Docks will be moſtly a mixture of ſhips from foreign parts, whoſe cargoes are valuable, ſhips that are light or on ſale, coaſters and colliers occaſionally in winter, and veſſels that calculate the difference between expenſe with diſpatch and delay with riſk. After maturely weighing the nature and extent of our reſpective trades, I am much inclined to believe that from 300 to 400 ſail of our moſt valuable ſhips from various trades, taken out of the River at a time, and in conſtant ſucceſſion, will not only correct the great evils complained of, but will give the requiſite relief and accommodation to the Port.

In ſtating theſe obſervations, I beg to be underſtood not to narrow the extent of Docks or their grounds of public utility, as I confeſs myſelf an advocate for them in all the propoſed given ſituations on the banks of the River, and for our commerce being upon the broadeſt baſis both as to extent and principles.

I have, however, I confeſs, my doubts whether it would be practicable or political to compel the whole of the ſhipping and commerce of the Port to go into Docks according to their reſpective trades or countries.

With ſubmiſſion, I conceive, that if the principles of a free trade ſhould ever meet with legiſlative attention,

attention, and which perhaps the preſent commercial ſtate of Europe ſeems to encourage, it will be perhaps prudent to ſee the effect of that principle before we totally derange preſent accommodations by the adoption of ſo great and ſudden a revolution in the trade of the Port, from the perſuaſion that commerce will extend its accommodations in proportion to its regular wants, and that revenue, in all ſituations, could eaſily adopt its regulations with ſecurity to its own objects, and with convenience to that commerce from which it draws its reſources.

THE EFFECTS OF TIDES ON DOCKS, &c.

I here beg to notice one objection that has been made to Wet Docks, grounded on the ſuppoſition that their baſons will, from time to time, gather ſilt or form ſhoals in their beds, and render them from day to day leſs commodious for ſhipping. In this reſpect, the Wapping Docks, propoſed by the merchants, will poſſeſs many advantages over Hull, Liverpool, Oſtend, and Ramſgate, and all other places that lie within the tide of the ſea or the vortex of its influence.

The ſilt or ſand in the baſon will be at all times conſiderably leſs than that which accompanies the tide in the River, as the baſon will be principally ſupplied by the upper ſurface of the tide, which will be freed from all thoſe denſe particles and ſub-

ſtances

ſtances which ground and roll with the tide along the bed of the River.

The tide of the River will never be permitted to go farther than the baſon, and thereby the inner Docks will always be kept free from the daily ſilt of the tide.

At Hull, there is a ſingle Dock, oblong in its form, and open to every agitation of the tide and of ſilt, on opening of the gates. It has been obſerved there, that the great body of ſilt depoſits itſelf in the lower part of the Dock for about one-third of the way, and the remaining two-thirds acquire but little ſediment, though there is no back-water. Horſe-boats are uſed to cleanſe the Docks. The ſame obſervations have been made in the Docks at Oſtend.

The baſon and locks are ſo conſtructed, by means of ſluices, &c. and poſition, that they can always be ſcowered at pleaſure without diſturbing or deranging the upper Dock, which will not for years ſtand in need of cleanſing; and a period will probably arrive when inland-navigations will bend their courſe towards the Wet Docks, and bring with them not only an increaſing commerce, but a conſtant ſupply of water on a higher level than the Docks themſelves.

The ſame principles that effect the Docks as to ſilt will apply to the canal from Blackwall, where the ſilt of the tide will ſeldom operate, and even then

then but a ſhort way up, and may be eaſily cleanſed by intermediate gates in the canal, which may be opened or ſhut, as occaſion require, for ſcowering or repairing any part of the canal. The Docks, Baſons, and Canal, by the ſhifting of water, may be made to ſcour and cleanſe each other. I have only to add, that the whole of the Dock-premiſes, excluſive of the line of the canal, is about 81 acres, and that the propoſed Docks may be varied as to form, dimenſions, and ſubdiviſions, according to pleaſure or convenience; and, by allowing room for ſhifting and for lighters, the Docks could accommodate near 500 ſail.

[The Witneſs delivered in a Section of the River, Locks, Baſons, and Docks in Wapping, as applicable to the Depth of Water at Spring and Neap Tides in the Docks and Baſons, which Section is annexed in the Appendix.]

N. B. The Obſervations on the Tides and the Plan, formed part of another Paper, but were added at the particular requeſt of a reſpectable Member of the Committee.

A SKETCH of the principal Outlines of Import and Export into, and from the Port of London; diſtinguiſhing, in general, whether they are landed or ſhipped from the Legal Quays, or Sufferance-Wharfs, &c.

	Landed at the Legal Quays.				Sufferance-Wharfs, &c.	
IMPORTS OF LONDON. TRADES.	Landed.	Houſed.	Carted away.	D° and bonded.		
EAST INDIES.						
Teas, China	,,	—	,,	,,	—	
Sugar, Bale-Goods	,,	—	,,	,,	—	
Indigo	,,	—	,,	,,	—	
Salt-Petre	—	—	—	—	,,	
WEST INDIES.						
Sugar*	,,	,,	—	—	—	
Rum	,,	,,	,,	,,	—	
Coffee	,,	—	,,	,,	—	

*N.B. Some carted away, many re-ſhipped by Wharfingers. In 1793, Permiſſion was granted to land Cargoes at Sufferance-Wharfs, and as low as Blackwall.

Pimento, Indigo	,,	—	,,	—	—	
Cotton	,,	,,	,,	—	—	
Wood, Mahogany	—	—	—	—	,,	
—— Fuſtick	—	—	—	—	,,	
—— Logwood	—	—	—	—	,,	
—— Staves	—	—	—	—	,,	
BALTIC. GERMANY AND HOLLAND.						
Hemp	—	—	—	—	,,	
Flax	—	—	—	—	,,	
Pitch, Tar, and Turpentine	—	—	—	—	,,	
Timber, Maſts*	—	—	—	—	,,	*N. B. Lie afloat in the Banks of the River until floated to Timber or to Dock Yards.
Deals, Staves	—	—	—	—	,,	
Tallow, Mats	—	—	—	—	,,	
Pot and Pearl Aſh and Hides	—	—	—	—	,,	
Firs*	,,	—	—	—	—	*Unpacked and counted, but troubleſome.
Linens	,,	—	—	—	—	
Briſtles, Glue, Wax	—	—	—	—	—	At Legal and Sufferance Wharfs.
Iſinglaſs	—	—	—	—	,,	
Drugs	,,	—	—	—	—	,, ,,
Madder	,,	—	,,	—	—	,, ,,
Corn	—	—	—	—	,,	
AMERICA.						
Tobacco	,,	—	,,	,,	—	
Indigo	,,	—	,,	—	—	

IMPORTS OF LONDON. TRADES.	Landed at the Legal Quays. Landed.	Housed.	Carted away.	D° and bonded.	Sufferance-Wharfs, &c.	
Rice	—	—	—	—	,,	
Timber, Masts*	—	—	—	—	,,	*Floated to Timber and Dock Yards.
Lumber, Dying-Woods	—	—	—	—	,,	
Pot and Pearl Ash	—	—	—	—	,,	
Oil	—	—	—	—	,,	
FRANCE, SPAIN, PORTUGAL, AND MEDITERRANEAN.						
Wines	,,	—	,,	—	—	
Brandies	,,	—	,,	—	—	Partly carted away.
Fruits	,,	,,	,,	—	—	
Oranges	,,	—	,,	—	—	Ditto.
Cotton, Mohair	,,	,,	,,	—	—	
Barilla	—	—	—	—	,,	
Marble Blocks	—	—	—	—	,,	
Dye-Woods	—	—	—	—	,,	

Oils, Pickles, &c.	,,	—	,,	—	—
Silks	,,	—	,,	—	—
IRELAND.					
Provisions	—	—	—	—	,,
Linen	,,	—	,,	—	—
CORN-SHIPS	—	—	—	—	,,
FISHERIES, Oils, &c.	—	—	—	—	,,
South Whalers	—	—	—	—	,,
Greenlanders	—	—	—	—	,,
COLLIERS*	—	—	—	—	,,
COASTERS*	—	—	—	—	,,
SCOTLAND.					
Herrings	—	—	—	—	,,
Linens	,,	—	,,	—	—
Paving-Stones	—	—	—	—	,,

*Loaded into Craft, and there kept until Sale or Delivery.
*Some at Legal Quays.

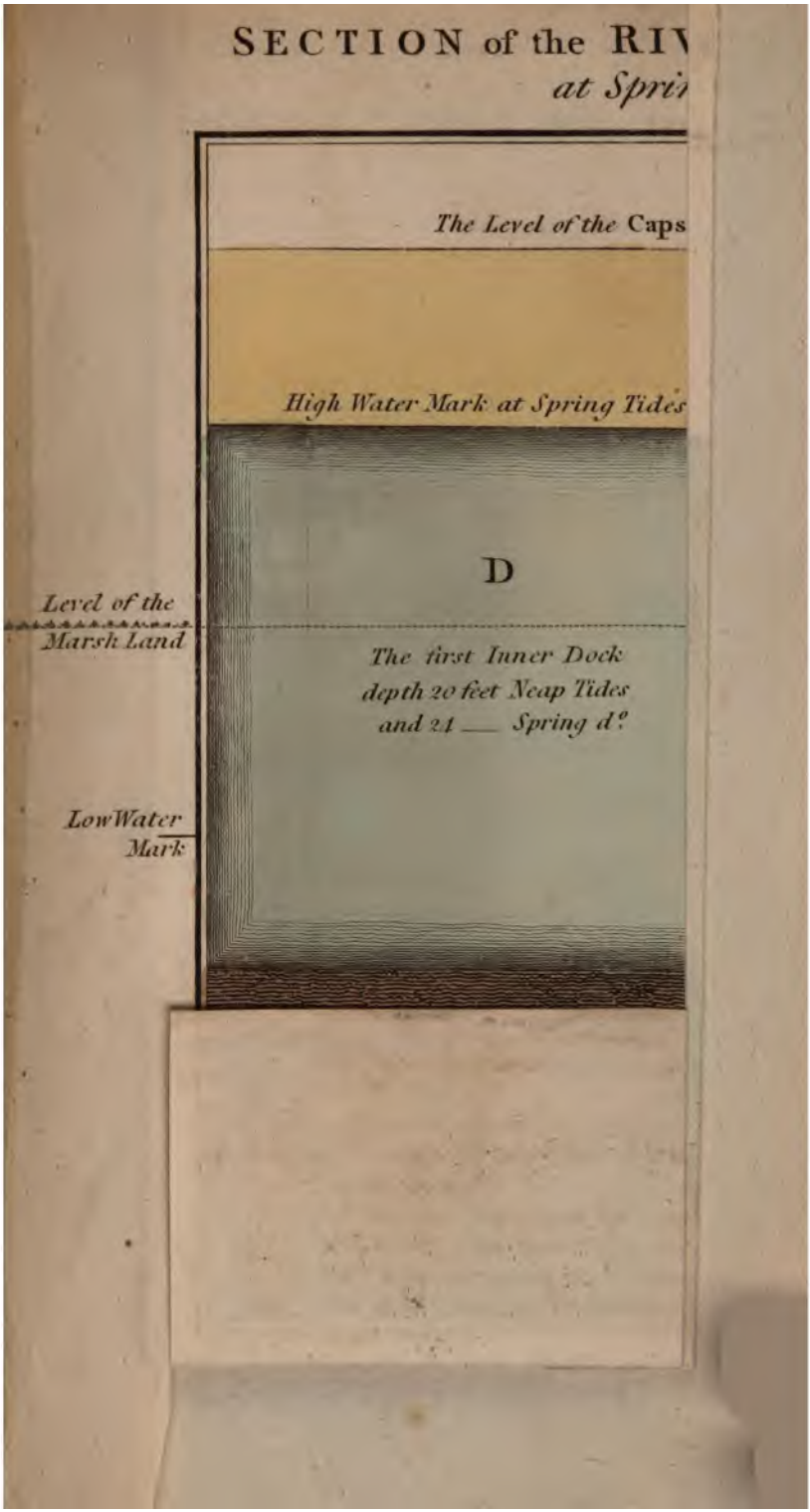
EXPORTS OF LONDON.	Shipped from the Legal Quays.	Sufferance-Wharfs.	
BOUNTY AND CERTIFICATE GOODS.			
Linens	,,	——	
Wines	,,	——	
Brandies	,,	——	
Rum	,,	——	
Fruit, &c.	,,	——	
Tobacco	,,	——	
FREE GOODS.			
Bales	,,	——	
Packages	,,	——	
Ironmongery, ſmall Work	,,	——	
Carriages	,,	——	
Porter	——	,,	Partially to Legal Quays.
COASTING-TRADERS	,,	——	Partially, moſtly to Sufferance-Wharfs.
Proviſions	——	,,	
Flour	——	,,	
Peaſe, Beans, Oats, &c.	——	,,	
Herrings	——	,,	
Corn	——	,,	

Lead, Copper		,,
Ironmongery Mill and large Work, &c.		,,
Hemp		,,
Flax		,,
Cordage		,,
Pitch, Tar, and Turpentine		,,
Naval Stores		,,
Ship-Chandlers Stores		,,
Hoops, Iron and Wood		,,
Rice		,,
Coals		,,
Bricks		,,
Hay, Straw		,,
Horſes, Cattle		,,
Salt-Petre		,,

THE END.

SECTION

SECTION of the RIV
at Spri



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ASTOR, LENOX AND
TILDEN FOUNDATIONS

REASONS

IN FAVOUR OF

THE

LONDON-DOCKS.

LONDON, 1795.

THE LONDON-DOCKS.

THE Merchants of London have recommended to the public the forming of Wet Docks in Wapping, for the reception of 400 Sail of loaded ſhips, when all are completed; and a Lighter-Dock, capable of holding 30 Lighters every tide. They are now applying to Parliament for leave to make the ſame; and, in order to give a fair diſcuſſion to all parties and all intereſts, it is intended that the Bill ſhall be read once, and printed, and then to lay over until the next ſeſſions.

The following are reaſons why mercantile and city intereſts ſhould join in the application.

1. From the great increaſe of Commerce, Shipping, and Revenue, for the Port of London, compared with former periods or with the reſt of England.*

2. That the RIVER is not adequate to the reception of the Shipping that frequent the Port. Navigation is frequently impeded, and the loſſes, damages, accidents, and plunderage, that Shipping and Merchandize annually ſuſtain, will not fall ſhort, on a moderate computation, of 2 or 300,000 *l.* per annum.

3. That the LEGAL QUAYS are the ſame in extent as at the fire of London, in 1666, being limited to between London-Bridge and the Tower, and are about 1464 feet long; while thoſe of Briſtol are above 4000 feet. They are limited in

* The firſt has, within this century, nearly trebled itſelf, as to value of Import and Export, and forms above three-fifths of the Trade of all England.

The ſecond, as to the Number of Ships from foreign Parts, has nearly doubled itſelf; and as to Tonnage, nearly trebled; independent of a very great increaſe in the Coaſting-Trade.

The third has alſo rapidly increaſed; and the payment of Cuſtoms for the Port of London, either in groce or in neat amount, and are, according to Public Documents, nearly treble of that for all England.

their powers of improvement or extenſion, and do not accommodate *one-fourth* of the Commerce of the Port of London in bulk, while the Port itſelf enjoys three-fifths of the trade of all England in value.*

The avenues alſo to the Legal Quays are too few, too ſteep, and too narrow. Out of the ten in number, there are only two great outlets; the others being impaſſible or little frequented. Scarce a day paſſes without great ſtoppages in one of the moſt principal thoroughfares of the metropolis over London-Bridge, occaſioned by the crowded ſtate of the Legal Quays, &c.

4. That many branches of Commerce have been thrown off from the Legal Quays to the Sufferance-Wharfs, ſuch as rice, hemp, flax, pitch, tar, &c. and, even of thoſe articles which have been retained, wharfingers have been frequently obliged to reſhip or cart away Merchandizes immediately from the King's Beam to other ſpots, at their own expence, and with additional riſk and trouble.

5. That the *Sufferance-Wharfs*, which are moſtly out of the juriſdiction of the City, and are diſperſed up and down the river as low as Blackwall, are inadequate to wants, and many are ill accommodated for general Merchandize, either for convenience, ſituation, or ſafety; and are often expoſed to ſun, rain, or fire. This laſt has been ſo frequent and extenſive within theſe few years as to become an evil of the firſt magnitude; and, in three fires, near one million of property has been ſacrificed.

6. That Merchandize in *Lighters and Craft*, in its tranſit from the Ship to the place of landing, often ſuſtains more damage than during the Voyage. Lighters and Craft are moſtly open, and the goods expoſed to every kind of weather, plunderage, and accidents, during all the delays and impediments for a month or ſix weeks before goods are landed. By thus making Lighters *floating Warehouſes*, Commerce is laid under a heavy contribution that is deſtructive to property, detrimental to Revenue, and a hardſhip and delay to an active and laborious claſs of Lightermen, whoſe little multiplied voyages would be doubled and quadrupled, if they themſelves could meet with more diſpatch.

* The Number of Ships, great and ſmall, that can lay afloat at low water, at the regular Mooring-Tiers, from London-Bridge to Deptford, are under 800 ſail. Coaſters, and Veſſels that ground every tide, are not included in this number. In 1792, above 13,300 Veſſels arrived in the Port of London.

7. That

7. That theſe great delays and loſſes in the River, and the great inſecurity to Shipping in times of Froſt, call for the moſt ſpeedy and effectual redreſs, independent of ſeizures frequently made on Goods duly entered but not landed within the time limited by law, from the want of accommodations in the River and of landing, and not from neglect and needleſs delays.

8. That London, from its conſumption and great increaſe of foreign and domeſtic Commerce, commands a Trade unrivalled in moſt Kingdoms; and, in proportion to the extent of it, has the worſt accommodations of any Trading-Port; and unleſs ſome meaſures are taken to increaſe Diſpatch and leſſen Port-Charges and other evils, Commerce will be farther driven to Out-Ports, and perhaps to foreign parts, without the powers of recall, when moſt of the European powers are becoming the Patrons of Commerce as the Parent of Naval Strength and a Source of Revenue.

9. That the Out-Ports, from their great diſpatch and enterprize in buſineſs, from their Docks, and vicinity to Canals and Manufacturing Towns, are greatly indebted for their preſent and increaſing proſperity, and are, to a degree, becoming the little rivals of the great Metropolis. The value of the whole of their imports and exports have increaſed nearly four fold, within this century, on their former Trade; while that for the Port of London, for want of theſe advantages, have not increaſed three fold, and carries on its Shipping and Commerce under the heavieſt incumbrances of delays, expence, and loſſes.

10. That the great ſource of theſe Evils proceed from the *want of room and diſpatch.* The removal of 300 or 400 Ships out of the River, with their attendant craft, (which take up double room to unload them,) would prevent a number of thoſe evils; and by giving convenience to Commerce, ſafety to Shipping, and ſecurity to Revenue, it would preſerve and extend to the Port of London many of its natural advantages.

11. That, from the commercial and political ſtate of Europe, London never had a fairer opportunity, by the creation of Docks and accommodations to Trade, of becoming the great magazine of Corn and other Merchandize for all Europe, than in the preſent juncture, and without a rival. Holland, Oſtend, and Hamburg, are living proofs how far the principles of a Free Trade have proſpered or decreaſed, according to political events; but London, from its inſular ſituation

ſituation and other cauſes, will have little to fear beyond the diſcouragements of its own Port-Charges, and its own delays.

12. That the London-Dock, from its being ſo near the centre of Trade, and *about a quarter of a mile* from the Tower, will not only ſecure to the City for poſterity, a number of its preſent advantages, but increaſe the means of extenſion; and thoſe advantages will be ſtill farther increaſed, in proportion as Inland Navigations form junctions with Docks. The Public are alſo alive to the neceſſity and want of Docks; and it is an object of conſideration, whether the City will have to contend with the Plan of the London-Dock, or with others that have been in agitation; that will, if accompliſhed, draw after them Trades, Profeſſions, and Towns, to more diſtant parts, that cannot be recalled.

13. That to the objections ſtated of,

1ſt, The infringement of City Rights.

2dly, The injury to City Revenues.

3dly, The removal of Commerce out of the City.

4thly, The deeply affecting the intereſts, proſperity, and employments, of various claſſes of Hands and Citizens, employed and maintained at the Legal Quays, &c.

It may be ſtated, that the Docks will not infringe on City Rights, they may be left as they are found. Ships in Dock can diſcharge their Cargoes into Craft, and ſend them to the Legal Quays, in the ſame manner as if they had laid in the River, with more œconomy and diſpatch, and with fewer injuries and loſſes to the Public Revenue, to Commerce, and to Wharfingers themſelves. For the greater convenience, a Lighter-Dock will be made, capable of holding from 26 to 30 Lighters, to go in and out of Dock every Tide. The Legal Quays will alſo farther always command a preference from vicinity and ſituation, and may be compared to a bee-hive that has ſtrength to throw off its ſwarms without injury to the common ſtock.

That the City Revenues from Commerce, are ſmall and limited, and may be collected and ſecured in the ſame manner as heretofore.

That the City cannot accommodate the Commerce of the Port, and that Sufferance-Wharfs are now become, from habit and neceſſity, as much the Legal Quays for the Port of London, as thoſe within the juriſdiction of the City.

That the right of ſhipping and landing Goods is not veſted in the City, but in Government and the Legiſlature, for

for the objects of Revenue. They are authorized to make or increaſe Legal Quays and Sufferance Wharfs, and it is under *their juriſdiction* that the preſent Legal Quays are conſtituted and derive their power, it being a compact between Commerce and the Revenue to land wherever it may be done with convenience to the one, and ſecurity to the other.

That the parties immediately affected are, comparatively few,* either in claſſes or numbers; and it is much better for the intereſts of Revenue and convenience to Commerce even to purchaſe rights, ſatisfy injuries, or grant annuities, than to ſuffer depredations and oppreſſions that are annually great, and that are detrimental to Property, and a diſcredit to the Port.

14. That the City of London has, at a great expence, made many improvements for ornament and convenience without emolument or profit, and has juſt applied to Parliament for the removal of Temple-Bar, &c. for the more convenient entry into the City, at the expence of £100,000, without any

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* The following are ſome of the principal leading Intereſts:

PRIVATE INTERESTS.

The *Legal Quays* are twenty-one in number, are freehold, and moſtly private property. The Owners are few, and moſt of them unconnected with the City, by habits, reſidence, or buſineſs, farther than by the collection of rents.

The *Wharfingers*, who poſſeſs a leaſehold eſtate on high rents, created by neceſſity and competition, and who cannot be hurt by compenſation for loſs of privileges, or by new leaſes on other terms.

The *Gangſmen and Porters*, who are a uſeful ſet of men, and enjoy places of truſt and confidence, and moſtly for life. Their numbers are few, and about fifty; exclusive of men employed on about five Quays, who employ thoſe that are not on the ſame footing as Gangſmen on the other Legal Quays.

Labourers are a fluctuating claſs of men, employed by the job or half-hour; and who are, as to the City, moſtly aliens and ſtrangers; being principally furniſhed by Soldiers from the Tower, and who would ſuſtain no injury by working either at the Docks or at the Legal Quays.

Carmen are a claſs of men that would be rather benefited than injured by any change; and their numbers are limited to 420 Carts.

Lightermen and Watermen. As the Docks would take the overflowings of Commerce which the River and Quays cannot accommodate, this claſs of men would be little injured. There would be employment enough for all, and their proſperity would depend more on the increaſe and diſpatch of Commerce than from the delays and hardſhips which they at preſent labour under.

PUBLIC INTERESTS.

City and Commercial Intereſts will be promoted and increaſed, by every attention to convenience, ſafety, and diſpatch to Trade.

Shipping-Intereſts will be benefited by the great ſecurity that Docks will give to Ships when the River is crowded, or affected by Froſts.

And the Revenue, from the ſafety and convenience given to Commerce, will meet with protection and increaſe.

return beyond that of a general improvement. It is hoped that the City will, with a becoming ſpirit, join mercantile intereſts in behalf of another plan, of infinitely more magnitude, that will not only furniſh ample means of defraying its own expences, but reſtore the credit of the Port, by giving convenience and ſafety adequate to the wants and accommodations of Commerce.

The above hints are ſubmitted with candor, and without intending diſreſpect to any Claſs of Men in the various branches of Commerce; but attributing the evils to one great ſource, the great increaſe of Commerce and the want of accommodations within the Port of London.

London, April 21, 1795.

THE END.